Arab Republic of Egypt Ministry of Electricity and Renewable Energy

# **Egyptian Electricity Holding Company**

Annual Report 2023-2024



### A New Republic... and Sustainable Energy Security

Energy is a key driver of development, and sustainable energy security is a fundamental pillar for achieving reliable and equitable abundance. It is also an effective element for building a sustainable society, within the framework of Mr. President Abdel Fattah El-Sisi's comprehensive and integrated vision for rebuilding the country and achieving sustainable development on the path to the New Republic

The Ministry of Electricity and Renewable Energy is the primary player in achieving sustainable energy security. It adopts an ambitious strategy to diversify energy sources, rely on renewable energy, improve energy efficiency, and work to reduce carbon emissions, lower production costs, and ensure equitable access to energy for all

The Ministry works to achieve sustainable energy security, plan and implement policies, develop infrastructure, and disseminate the use of renewable energy. The National Energy Strategy was updated until 2040, which includes expanding renewable energy projects and increasing reliance on renewable energy in the energy mix, reaching 42% by 2030 and 65% by 2040

The Ministry adopts a general policy based on improving energy efficiency, developing transmission and distribution networks, and utilizing modern technology to reduce losses and achieve sustainable energy security. Sustainability, promoting energy efficiency as an energy source, introducing energy storage technologies, and actively participating in regional electricity interconnection projects, positioning Egypt as an energy bridge between Asia, Africa, and Europe. This is within the framework of achieving sustainable security, the country's sustainable development strategy, and the national energy strategy.



**Dr. Eng/ Mahmoud Mustafa Esmat** Minister of Electricity and Renewable Energy



**Dr. Mahmoud Esmat,** Minister of Electricity and Renewable Energy





- Egypti
- Produ
- Transı
- Distrik
- Huma
- Medica
- Comm

The Egyptian Electricity Holding Company (EEHC) is an Egyptian Joint-stock company subject to the provisions of Law no. 159 of 1981 and its amendments and Executive Regulation, to the extent they are not in contradiction with Law no. 164 of 2000 regarding transformation of the former Egyptian Electricity Authority to an Egyptian joint-stock company, and the Electricity Law no. 87 of 2015 and its amendments and Executive Regulation. Issue **Head Office** (Billio

Cairo

99.93

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# Egyptian Electricity Holding Company (EEHC)

Capital 1 EGP)	Authorized Capital (Billion EGP)	Address	Phone Number & Website
3137	120	The New Administrative Capital	(02) 205 33 533 Website: www.eehc.gov.eg





Eng. Gaber Dessouki Mustafa Chairman of The Egyptian Electricity Holding Company

Provide sustainable electrical energy for all customers through available resources according to international standards at competitive prices by corporation work efforts adopting quality policies, optimal utilization of resources and environment conservation based on highly efficient human and technological potentials and accomplishing business in an ethically responsible manner for the benefit of our customers, employees and society.





### Mission





Egyptian Electricity Holding Company

Annual Report 2023/2024

#### **Organizational Structure of EEHC** (on 30/6/2024) Minister of Electricity & Renewable Energy President of the General Assembly of EEH Dr. Eng. Mahmoud Mustafa Esmat Chairman of EEHC President of the General Assemblies of Affiliated Companies Executive Director for Planning, esearch & Generation Projects El Executive Director for Human Re-ources & Administrative Affairs Acc. Eng. Gaber Dessouki Mustafa Mohamed Mahmoud El-Sisi Mohamed Abdel-Moneim El-Tablawy Executive Director for Production es Affairs Dr. Eng. rcial & Finance Affairs Aco es Affairs Eng. Nadia Abdel-Aziz Qatry Mahmoud Mohamed El-Nageeb Khaled Mohamed El-Destawy **Affiliated Companies** Production Distribution Companies Companies Egyptian Electricity North Cairo South Cairo Cairo ransmission Company Eng. Sabah Mohamed Mashal Eng. Hossam El-Deen H. Afifi Eng. Tareq Mohamed Abdel-Shafy Eng. Tareq Abdel-Hameed Taha Middle Delta Alexandria Canal Eng. Mohamed El-Saeed El-Abd Medial Services Co. Eng. Ehab Sameer El-Fegy Eng. Samy Arafa Abu-Warda Dr. Mohamed Ismail El-Khawwas Upper Egypt North Delta South Delta Eng. Mohamed Mokhtar Ragheb Eng. Mohamed Ahmed Assal Eng. Hassan Mohamed El-baily Youssef East Delta Middle Egypt Beheira Eng. Mohamed Abdel-Baqy Abu-Senna Eng. Bahget Abd El Hameed Fayad Eng. Raafat Hussein Shamaa West Delta Eng. Mohamed Ismail El-Batea Upper Egypt Eng. Ahmed Sedqy Abdallah Abdel-Hafeez Hydro Power Eng. Hesham Kamal Mohamed

Generation Projects

5 8

**EEHC Representatives** 



Eng. Mahmou Executive Direc Affairs



Dr. Eng. Khal Executive Direc Affairs



Acc. Mohamed Mahmoud Elsisi Executive Director for Human Resources & Administrative Affairs



Mr. Hesham Ahmed Fo'ad Board Member representing Employees



### Board of Directors (on 30/6/2024)



Eng. Mohamed Abdel-Moneim El-Tablawy Executive Director For Planning, Research &

Acc. Nadia Abdel-Aziz Qatry Executive Director for Financial, Commercial &

Eng. Mahmoud Mohamed ElNaqeeb Executive Director for Production Companies'

Dr. Eng. Khaled Mohamed El-Destawy Executive Director for Distribution Companies'

Eng. Gaber Dessouki Mustafa Chairman of EEHC

#### **Representatives of Ministries & Government Agencies**



Mr. Hamed Abul Magd Mahran Board Member representing the Central Bank of Equot



Mr. Waleed Eid Mahmoud El-Haddad Board Member representing the Ministry of

International Cooperation



**Mr. Mohamed Gamal El-Deen El-Sobky** Board Member representing the Ministry of Finance



Eng. Yassin Ahmed Mohamed Yassin Board Member representing the Ministry of Petroleum and Mineral Wealth



**Dr. Eng. Ali Mohamed Abdel-Fattah** Board Member representing the Ministry of Electricity & Renewable Energy



**Dr. Ayman El-Sayed Ibrahim** Board Member representing Mechanics and Electricity Directorate



**Dr. Khaled Zakareya Amin** Board Member representing the Ministry of Planning and Economic Development



### **Objectives:**

- Providing electric power on various voltages for all uses with high efficiency at affordable prices.
- Carrying out planning, studies and designs in the field of competence of the Company and its affiliated companies.
- Managing the Company's securities portfolio and investing its funds through the affiliated companies and other entities in the fields of production, transmission and distribution of electric energy and other complementary and associated works.
- Purchasing the electrical energy produced in power plants constructed by authorized local and foreign investors and selling it on the ultra-high voltage networks.
- Working on rectifying the financing structures and economic path of the affiliated companies, maximizing their profitability and rationalizing costs.
- Conducting researches and tests of electrical equipment of different voltages.
- **(d)** Implementing projects for producing energy from different sources (other than nuclear power) in accordance with global technologies, and the associated projects for the construction and management of desalination plants and selling desalinated water produced by these projects.
- (8) Carrying out consultancy and service works in the field of electric energy production, transmission and distribution locally and internationally.
- Exploiting renewable energy to produce green hydrogen, storing and trading it inside and outside Egypt, treating it with the intention of converting it into other products and circulating, storing and trading those products inside and outside the country.
- Implementing electrical interconnection projects and exchange of electric power with other countries, and selling and buying it according to needs with the electrical networks connected to the Egyptian grid.
- (1)Providing distinguished, safe and high quality medical care at reasonable costs, driven by a dedication to continuous developments, innovation and the optimal utilization of available resources, delivered by gualified medical personnel.
- (12)Providing training courses and workshops for the benefit of the employees of EEHC and its affiliated companies, as well as expatriates, inside and outside Egypt in managerial, financial and technical fields.

EEHC practices its powers on its own or through its affiliated companies or the joint-stock companies that the Company establishes on its own or in association with others.



#### **Total Installed Capacity** <sup>(1)</sup>:

- Hydro
- Thermal (Affiliated Compani
- New & Renewable Energy (v
- · Private Sector power plants

#### Peak Load

#### **Total Power Generated (on**

- Hydro
- Thermal <sup>(4)</sup>
- New & Renewable Energy
- Private Sector (BOOT)
- · Unconnected Plants and Re-
- Industrial Companies' Surplu

#### Total Fuel Consumption<sup>(6)</sup>

- In Production Companies (in
- · In Private Sector power plan

Fuel Consumption Rate at Pro Fuel Consumption Rate, includ

Thermal Efficiency (including Ratio of N.G to total fuel consu Ratio of N.G to total fuel consu

T. Length of Transmission Line

T. Substation Capacities on H

T. Length of Distribution MV&L

T. Capacity for distribution tran

No. of Customers at Distribution No. of Customers at EETC

No. of Employees at EEHC an

(1) There are unconnected units with a total installed capacity of 156.4 MW. (2) EEHC power plants (Siemens plants, Sidi Krir 3&4, and Gulf of Suez). (3) The solar component of kuraimat Solar/Thermal Plant is 20 MW. (4) Including commissioning tests and EEHC power plants.

- (5) Connected to the national unified grid.





### Electricity in 2023/2024

Description		2022/2023	2023/2024	Variation %
es & EEHC Plants) <sup>(2)</sup> vind, solar and thermal/solar) <sup>(3)</sup> (thermal)	MW MW MW MW	<b>59442.18</b> 2832 52622.5 3308 682.5	<b>59694.18</b> 2832 53304.18 3558.325 682.5	<b>0.42</b>  1.3 7.58 
	MW	34200	36800	7.6
ountry level):	GWh GWh GWh GWh GWh	<b>216252</b> 15458 189977.845 10642 5399	229284.23 15056.49 202401.11 11630.628 87.328	6.03 (2.6) 6.54 9.3 (98.38)
serves	GWh GW/b	163	183	12.3
ncluding EEHC's plants) hts (BOOT)	K toe K toe K toe	<b>33499.466</b> 32350 1150	<b>35568.045</b> 35549.3 18.754	<b>6.17</b> 9.89 (98.37)
oduction Companies ding BOOT	gm/kWh gen. gm/kWh gen.	175.26 176.3	175.71 175.73	0.26 (0.34)
BOOT)	%	49.77	49.93	0.32
umed, including BOOT umed, without BOOT	% %	85.8249 85.32	83.67 85.66	(2.51) (0.4)
es & Cables on HV & Extra HV V and Extra HV LV Lines and Cables Insformers MV&LV	Km MVA Km MVA M. Customer	57504 199517 578588 100341 40.7	58289.4 204716.2 602904.3 105067 42.1	1.37 2.6 4.2 4.71 3.38
	Customer	174	179	2.87
nd Subsidiaries	K. Employee	138.4	133	(3.9)

(6) In addition to the total fuel consumed at the non-connected and reserved plants amounting to 34.8 K toe.







# Production of Electrical Energy

### The Electricity Production Companies are:

Cairo Electricity Production Company

East Delta Electricity Production Company

Middle Delta Electricity Production Company

West Delta Electricity Production Company

Upper Egypt Electricity Production Company

Hydro-Power Plants Electricity Production Company

Holding Company Power Plants



**Objectives of the Production Companies:** 

Production of electrical energy at the affiliated power plants.

Management, operation and maintenance of the affiliated power plants, and execution of rehabilitation and replacement operations as necessary in full compliance with the directions of the National Control Center of the national unified grid, particularly in relation to loads and maintenance of the generation units, in accordance with the economical operation requirements to ensure optimum operation of the system technically and economically.

Selling electrical energy produced at the affiliated power plants to the Egyptian Electricity Transmission Company (EETC) and to the Distribution Companies where energy is dispatched on medium voltages.

Implementation of power plant projects with the approval of EEHC's Board of Directors and according to their planned time schedules.



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Conducting research and studies within the scope of the Company's activities.

Carrying out any other activities or works related to, or complementing, the Company's objective.





• The Peak- load day curve for 2023/2024 does not reflect the 24 hour load profile due to the load reduction plan with the state's interest in supplying all critical loads.







### **Peak Load**

### **Development in Peak Load**



## Installed Generation Capacities on 30/6/2024

Description	2022/2023	2023/2024	Variation Rate
Installed Generation Capacity (MW)	59442,14	59694.18	0.42%

								EE	HC Plai	nts		Renewa		
Type Co.		Cairo	ro East Delta	Middle Delta	West Delta	Upper Egypt	Hydro Power	Sidi krir 3 - 4	Suez Gulf	Port- said	Siemens	Solar	Wind	Total
	Gas	635	1848.5	336	24.3	0	0	0	0	0	0	0	0	2843.81
S	team	3970	3856	420	3431	4454	0	682.5	682.5	682.5		0	0	18178.5
Coi C	nbined Sycle	4668.8	4200	5106.6	905.5	3000	0	0	0	-	14400	0	0	32281.87
H	lydro	0	0	0	0	0	2832	0	0	0	0	0	0	2832
/ables	Solar	0	0	0	0	0	0	0	0	0	0	1674	0	1674
Renew	Wind	0	0	0	0	0	0	0	0	0	0	0	1884.32	1884.32
Tota	al (MW)	9273.8	9904.5	5863	4361.75	7454	2832	682.5	682.5	682.5	14400	1674	1884.32	59694.18



Description		2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
Gas		4055	3343	2843	2843.81	2843.81
Steam		17179	17179	18479 18178.5		18178.5
Combined Cycle		32448	32448	32447	32281.87	32281.87
Hydro		2832	2832	2832	2832	2832
v & vable	Solar	1631	1631	1631	1674	1674
Nev Renev	Wind	1385	1385	1633	1632.32	1844.32
Total		59530	58818	59866	59442,18	59694.18

### • During the year 2023/2024:

- stations on 9/7/2023.
- operation on 15/11/2023.

### W.W 60000 59800 59600 59530 59400 59200 59000 58800 58600 58400 58200 2019/2020





### Development in Installed Generation Capacities by Generation Type (MW)

• EEHC's plants include (Siemens' plants, Sidi-Krir 3 & 4, and Suez Gulf and East Port Said).

• Port Said East power plant was separated from the private sector plants and joined the Holding Company'

• The installed capacity of the wind includes the installed capacity of KFW station (252 MW) after its commercial

### **Development in total Installed Capacities**



## Installed Capacities of Power Plants (30/6/2024)<sup>(1)</sup>

Co.	Station		No. of Units	Installed Capacity (MW)	Actual Capacity (MW)	Type of Primary Fuel	Connected to Network	Commissioning Date
	Shoubra El-Kheima	(St)	4x315	1260	1200	N.G -H.F.O.	1983-84-85-88	1984-85-88
	Shoubra El-Kheima	(G)	1x35	35	20	N.G.	1985	1986
	Cairo West Ext.	(St)	2x330 + 2x350	1360	1360	N.G -H.F.O.	1994-95-2010-11	1995-2011
	Cairo West (9 <sup>th</sup> )	(St)	1x650	650	650	N.G -H.F.O.	2021	2021
is	Cairo North	(CC)	4x250 + 2x250	1500	1500	N.G	2004-05-06-07	2004-06-08
ပီ	El-Tibbeen	(St)	2x350	700	700	N.G - H.F.O	2010	2010
	6 October	(G)	4x150	600	600	N.G -L.F.O.	2012	2012
	6 October Ext.	(CC)	4x150+1x318.7	918.7	918.75	N.G	2014-2015-2018	2014-2015-2019
	North Giza	(CC)	6x250 + 3x250	2250	2250	N.G -L.F.O.	2014-2015	2014-15-16
		Total		9273.75	9198.75			
	Ataqa	(St)	2x300	600	600	N.G	1976-83-86	1985-88-89
	Abu Sultan	(St)	4x150	600	600	N.G -H.F.O.	1979-81-84	1984-85-87
	New Shabab	(CC)	8x125 + 2x250	1500	1500	N.G	2011-17-18	2011-2018
	Al-Arish	(St)	2x33	66	66	N.G -H.F.O.	1993	1997
	Oyoun Mousa	(St)	2x320	640	640	N.G	1997	2001
	New Damietta	(G)	2x125	250	250	N.G	2011	2011
	Al-Arish	(G)	2x125	250	250	N.G.	2023	2023
ta	West Damietta	(CC)	4x125 + 1x250	750	750	N.G	2012-13-18	2012-2018
De	Damietta	(CC)	6x132 + 3x136	1200	1164	N.G	1989-1992	1989-1992
ast	West Damietta Ext.	(CC)	4x125 + 1x250	750	750	N.G	2015-2018	2016-2018
ш	Masaeed	(G)	2x 27, 24	48.54	30	L.F.O.	-	-
	Ain Sokhna	(St)	2x650	1300	1300	N.G -H.F.O.	2014	2015
	Suez Thermal	(St)	1x650	650	650	N.G -H.F.O.	2016	2017
	Ataqa	(G)	2x164 + 2x156	640	640	N.G	2015	2015
	Port Said Ext.	(G)	2x42	84	-	N.G	2015	2017
	Hurghada Ext. <sup>(2)</sup>	(G)	6x48	288	-	N.G	2015	2017
	Sharm El-Sheikh Ext. <sup>(3)</sup>	(G)	6x48	288	- 18	N.G	2015	2017
	Т	otal	3)	9904.54	9190			
🖊 (St	): Steam Unit		썕 (G): Gas Unit		1	(CC): Combin	ed Cycle Unit	

Co.	. Station		No. of Units	Installed Capacity (MW)	Actual Capacity (MW)	Type of Primary Fuel	Connected to Network	Commissioning Date
	Talkha	(CC)	8x24.7+2x45.9	289.64	236	N.G.	1978-79-88	1979-80-89
	Talkha 210	(St)	2x210	420	360	N.G.	1992-1994	1993-1995
<u>a</u>	Talkha 750	(CC)	2x250+1x250	750	750	N.G.	2006-2010	2006-2010
Del	Nubaria	(CC)	6x250+3x250	2250	2250	N.G.	2005-06-09-10	2005-06-09-10
9	Mahmoudeya	(CC)	8x25+2x58.5	317	268	N.G.	1982-1994	1983-1995
idd	New Mahmoudeya	(G)	2x168	336	336	N.G.	2015	2015
Σ	EI-Atf	(CC)	2x250+1x250	750	750	N.G.	2009-2010	2009- 2010
	Banha	(CC)	2x250+1x250	750	750	N.G.	2013-2014	2013-2014
	Total			5862.64	5862.64 5700			
	Kafr El-Dawwar	(St)	2x110	220	170	N.G -H.F.O.	1980 - 1985	1980-1986
	Damanhour Ext.	(St)	1x300	300	300	N.G-H.F.OL.F.O.	1990	1992
	Damanhour	(CC)	4x24.62+1x58	156.48	130	N.G -L.F.O.	1984-1994	1986-1995
ta	NewAbu-Qir	(St)	2x650	1300	1300	N.G -H.F.O.	2012	2012-2013
De	Abu-Qir	(St)	4x150+1x311	911	780	N.G -H.F.O.	1982-83-90	1983-84-85-91
est	Abu-Qir	(G)	1x24.27	24.27	23	L.F.O.	1982	1983
Š	Sidi-Krir 1&2	(St)	2x320	640	640	N.G-H.F.OL.F.O.	1998-1999	2001
	Sidi-Krir	(CC)	2x250+1x 250	750	750	N.G.	2009-2010	2009-2010
	Matrouh	(St)	2x30	60	60	N.G-H.F.OL.F.O.	1989	1990
		Total		4361.75	4153			
	Walideya	(St)	2x300	600	600	H.F.O.	1992-1997	1992-1997
	Kuriemat	(St)	2x627	1254	1254	N.G-H.F.O.	1997-1998	1997-1998
jypi	Kuriemat 1	(CC)	2x250+1x250	750	750	N.G.	2006-07-08	2007-2009
В Ш	Kuriemat 2	(CC)	2x250+1x250	750	750	N.G.	2008-2010	2009-2011
per	West Assiut	(CC)	8x125+2x250	1500	1500	N.G-L.F.O.	2015-2018	2015-19-20
a D	South Helwan	(ST)	3x650	1950	1950	N.G-H.F.O.	2018-2019	2019
	New Assiut-Walideya	(ST)	1x650	650	650	N.G-H.F.O.	2021	2022
	Т	otal <sup>(!</sup>	5)	7454	7454			
	Burullus	(CC)	8x400+4x400	4800	4800	N.G	2016-17-18	2017-18-19
ts	Beni-Suef	(CC)	8x400+4x400	4800	4800	N.G	2016-17-18	2017-2018
lan	New Capital	(CC)	8x400+4x400	4800	4800	N.G	2016-17-18	2017-2018
L C	Sidi-Krir 3&4	(St)	2x341.25	682.5	682.5	N.G -H.F.O.	2001	2002
Η̈́Ξ	Suez Gulf	(St)	2x341.25	682.5	682.5	N.G -H.E.O.	2002	2003
Ш	East Port Said <sup>(3)</sup>	(ST)	2x341.25	682,5	682,5	N.G-H.F.O.	2002	2003
		Total		16447.5	16447.5			

// (St): Steam Unit



Egyptian Electricity Holding Company

썕 (G): Gas Unit

// (CC): Combined Cycle Unit



### Egyptian Electricity Holding Company

Co.	. Station		No. of Units	Installed Capacity (MW)	Actual Capacity (MW)	Type of Primary Fuel	Connected to Network	Commissioning Date
	Zafarana	(Wind)	103x0.6+117x0.66 +472x0.85	540.22	540.22	Wind	From 2001:2008 (on phases)	From 2007:2010 (on phases)
	Gabal El-Zeit	(Wind)	2x290	580	580	Wind	2015-16-18	2016-18-19
	Ras Gharib (Shuquir)	(Wind)	125x2.1	262.5	262.5	Wind	2019	2019
đ	Lakela (Pr. Sector)	(Wind)	96x2.6	249.6	249.6	Wind	2021	2021
able	Fostas (KFW) <sup>(4)</sup>	(Wind)	70x3.6	252	252	Wind	2010	2011
Jew	Total Wind			1884.32	1884.32			
& Rer	Kuriemat Solar/Th.	(TH\ Solar)	1x70+1x50+1x20	140	140	NG \ Solar	2010	2011
ew	Zaafarana	(PV)	1x43	43	43	Solar	2022	2022
Z	Benban (Pr. Sector)	(PV)	27x50+1x30+ 3x20+1x25	1465	1465	Solar	2017-2018- 2019	2018-2019
	Kom Ombo	(PV)	1x26	26	26	Solar	2020	2020
	Total Solar			1674	1674			
		Total		3558.32	3558.32			
	High Dam		12x175	2100	2100	Hydro	1967	1967
S	Aswan I		7x40	280	280	Hydro	1960	1960
lant	Aswan II		4x67.5	270	270	Hydro	1985	1985-86
0 0	Esna		6x14.28	85.68	85.68	Hydro	1993	1993
ydr	Naga Hamadi		4x16	64	64	Hydro	2008	2008
Í	Assiut		4x8	32	32	Hydro	2018	2018
			2831.68	2831.68				
	Total Uni	fied C	Grid	59694.18	58533.25			
🖊 (St)	: Steam Unit		썕 (G): Gas Unit			// (C	C): Combined	Cycle Unit

(CC): Combined Cycle Unit

(1) In addition to 156.4 MW of reserved and non connected units.

(2) A number of (6) units from the Hurghada station with a total capacity of 288 MW were leased to the American company PROENERGY On 13/2/2024 and for 5 years. And a number of (3) units were leased at the Sharm El Sheikh station with a total capacity of 288 MW and number of (2) units to the American company PROENERGY In two stages, on 30/10/2022 - 24/9/2024, for a total period of 5 years. Also a number of (14) gas turbine engines were leased with a total installed capacity of 660 MW to the American company at the stations' locations, in (Sharm El Sheikh, Hurghada and Port Said).

(3) Port Said - East station was separated from the private sector stations and joined to the Holding Company stations on 9-7-2023.

(4) The KFW station for new and renewable wind power generation plants was added and commercially operated on 15-11-2023.

By G	eneration Type	e (GWH)			
	Туре	2022/2023	2023/2024	Variation %	
	Subsidiaries	41322	48246.57	16.76	
Stear	n EEHC's Plants	660	3799.5	475.69	
	Private Sector	5399	87.33	(98.38)	
Gas	Subsidiaries	2377	1288.79	(45.79)	
Comhin	ed Subsidiaries	67629	71990.33	6.45	
Cycle	Burullus, New Administrative Capital, Beni-Suef	72590	76988.60	6.06	
	Total Thermal*	189977	202401.11	6.54	
	Hydro	15458	15056.49	(2.6)	
New &	Wind	5665	6337.98	11.88	
Renewal	ole Solar	4977	5292.647	5.54	
	Total Grid	216077.45	229088.23	6.02	
Non-c	onnected & Reserved	163	183	12.3	
Purchase	ed from Industrial Enterprises	12	13	8.3	
	Grand Total	216252	229284	6.03	
By P	roduction Com	ipany (G	WH)		
	Company	2022/2023	2023/2024	Variation %	
	Cairo	30273	32166.51	6.26	
	East Delta	28685	28303.65	(1.33)	
	Middle Delta	19777 24824.0		25.52	
	West Delta	14674	16306.86	11.13	
	Upper Egypt	17919	19924.62	11.19	
	Burullus-Beni Suef-New Capital	72590	76988.59	6.06	
EEHC Plante	Suez Gulf *	25	812.765	3168.81	
Fiants	Sidi-Krir 3&4 *	635	1642.41	158.52	
	East Porto-said	0	1344.31		
	Hydro plants	15458	15056.49	(2.60)	
Ne	ew & Renewable	10641.162	11630.62	9.3	
	Private Sector	5399	87.32	(98.38)	
	Total Grid	216077	229088.23	6.02	
Non-c	onnected & Reserved	163	183	12.3	
Purchase	ed from Industrial Enterprises	12	13	8.3	

By G	eneration Type	e (GWH)			
	Туре	2022/2023	2023/2024	Variation %	
	Subsidiaries	41322	48246.57	16.76	
Stean	n EEHC's Plants	660	3799.5	475.69	
	Private Sector	5399	87.33	(98.38)	
Gas	Subsidiaries	2377	1288.79	(45.79)	
Comhin	Subsidiaries	67629	71990.33	6.45	
Cycle	Burullus, New Administrative Capital, Beni-Suef	72590	76988.60	6.06	
	Total Thermal*	189977	202401.11	6.54	
	Hydro	15458	15056.49	(2.6)	
New &	Wind	5665	6337.98	11.88	
Renewat	ole Solar	4977	5292.647	5.54	
	Total Grid	216077.45	229088.23	6.02	
Non-c	onnected & Reserved	163	183	12.3	
Purchase	ed from Industrial Enterprises	12	13	8.3	
	Grand Total	216252	229284	6.03	
By P	roduction Com	ipany (G	WH)		
	Company	2022/2023	2023/2024	Variation %	
	Cairo	30273	32166.51	6.26	
	East Delta	28685	28303.65	(1.33)	
	Middle Delta	19777	24824.02	25.52	
	West Delta	14674	16306.86	11.13	
	Upper Egypt	17919	19924.62	11.19	
	Burullus-Beni Suef-New Capital	72590	76988.59	6.06	
EEHC	Suez Gulf *	25	812.765	3168.81	
Plants	Sidi-Krir 3&4 *	635	1642.41	158.52	
	East Porto-said	0	1344.31		
	Hydro plants	15458	15056.49	(2.60)	
Ne	ew & Renewable	10641.162	11630.62	9.3	
	Private Sector	5399	87.32	(98.38)	
	Total Grid	216077	229088.23	6.02	
Non-c	onnected & Reserved	163	183	12.3	
Purchase	ed from Industrial Enterprises	12	13	8.3	
	Grand Total**	216252	229284	6.03	
Inclue	dina commissionina	tests privat	e sector no	on-connecte	

- companies.



### **Generated and Purchased Energy**\*





nd reserved untis, and purchased Industrial

\*\* The energy generated from EEHC power plants includes the energy generated from the Port Said-East power plant, after being transfered from private sector to EEHC power plants.



## **Development in Generated and Purchased Energy**\*



\* Including operating experience, the private sector, and spare and unconnected stations purchased from Industrial companies.



Co.	Power Plant	Generated Energy GWh	Transmittd Energy GWh	Self- Consumption Rate%	Consumd fuel K toe	Fuel Generation Rate gm/kwh	Thermal EFF. %	Peak Ioad MW	load Factor %	Cap. factor%	AV. Factor%
Cairo	Shoubra El- Kheima Shoubra - Gas Cairo West (5&6) Cairo West (7&8) Cairo West (9) Cairo North -CC Tibbeen 6 October 6 October Ext. Giza North	4938.58 0.00 1625.77 1920.669 3148.277 7677.46 2199.107 196.76 3341.522 7118.369	4960.41 0.00 1560.92 1780.94 3047.06 7517.77 2033.62 184.38 3251.77 6957.76	5.03 0 3.99 7.27 3.22 2.08 7.53 6.29 2.69 2.26	1243.28 0.00 371.96 422.37 652.49 1201.90 463.84 58.88 599.90 1193.12	251.75 968.90 228.79 219.91 207.25 156.55 210.92 299.26 179.53 167.61	34.85 9.06 38.35 39.90 42.33 56.06 41.60 29.32 48.87 52.35	990.46 10 565.73 607.60 703.73 1402.7 625.28 585.3 693.78 1691.01	56.76 0 32.72 35.99 50.93 62.31 40.04 3.83 54.83 47.92	46.85 0 28.04 32.24 55.14 58.27 35.76 3.73 41.41 36.02	88.94 100 91.32 86.53 83.05 92.45 91.76 97.99 96.48 74.89
	Total	32166.5	31024.62	3.55	6207.75	192.99	45.46	6319	57.96	39.81	87.23
East Delta	Ataqa - Steam Abu Sultan New Shabab - CC Al-Arish - Steam Oyoun Moussa -Steam New Damietta - Gas Al-Arish - Gas West Damietta 1 -CC Damietta - C.C West Damietta 2 - CC El Massaeed - Gas Ain Sokhna Suez - Thermal Ataqa (Gas) Port Said Ext Gas Hurghada Ext Gas Sharm El-Sheikh Ext.	1.433 661.384 9237.52 54.857 2050.837 84.721 973.225 1667.06 2222.54 2038.169 0.0271 5498.319 3789.045 8.002 0 16.522 0	-4.523 582.674 9005.48 49.641 1941.773 81.085 965.698 1623.26 2159.75 1978.12 0181 5343.19 3660.53 5.20 349 13.435 -3.669	415.63 11.90 2.51 9.51 5.32 4.29 0.77 2.63 2.83 2.95 166.85 2.82 3.39 34.98 0 18.69 0	.551 170.254 1665.98 16.393 445.32 23.59 260.85 300.69 446.463 367.40 0.02 1164.72 806.07 2.17 0 4.64 0	384.57 257.42 180.35 298.83 217.14 278.43 268.03 180.37 200.88 180.26 687.34 211.83 212.74 271.01 0 270.2 0	22.82 34.08 48.65 29.36 40.41 31.51 32.74 48.64 43.68 48.67 12.77 41.42 41.24 32.38 0 32.47 0	$\begin{array}{c} 180\\ 372.06\\ 1413.19\\ 26\\ 601.29\\ 250.61\\ 240\\ 358.71\\ 793.42\\ 662.45\\ 12\\ 1220.32\\ 637.5\\ 563.12\\ 0\\ 102\\ 0\\ \end{array}$	0.09 20.24 74.42 24.02 38.82 3.85 46.16 52.91 31.89 35.03 0.025 51.29 67.66 0.161 0 3.13 0	$\begin{array}{c} 0.03 \\ 12.55 \\ 70.11 \\ 9.46 \\ 36.48 \\ 3.86 \\ 44.32 \\ 25.3 \\ 21.74 \\ 30.94 \\ 0.01 \\ 48.15 \\ 66.36 \\ 0.14 \\ 0 \\ 1.11 \\ 0 \end{array}$	96.39 91.66 94.06 85.77 94.49 98.37 100.0 95.32 97.97 97.68 100.0 88.78 82.60 98.17 0 95.23 0
	Total	28303.659	27401.28	3.19	5674.93	200.5	43.76	6042.58	53.32	34.29	93.61





## Variant Statistics of Power Plants 2023/2024



# Egyptian Electricity Holding Company

Annual R	eport	2023
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Co.	Power Plant	Generated Energy GWh	Transmittd Energy GWh	Self- Consumption Rate%	Consumd fuel K toe	Fuel Generation Rate gm/kwh	Thermal EFF. %	Peak Ioad MW	load Factor %	Cap. factor%	AV. Factor%
	Talkha - CC Talkha 210	0 0	0 -3.481	0 0	0 0	0 0	0 0	0 0	0 0	0 0	100.0 100.0
Delta	Talkha 750 CC Nubareya (1&2) CC Nubareya (3) CC	4899.861 6957.631 3691.673	4815.852 6818.225 3613.98	1.71 2.00 2.10	768.803 1175.118 601 768	156.90 168.90 163.01	55.92 51.95 53.82	741.72 1515.6 806.8	75.21 52.26 52.09	74.38 52.81 56.04	95.33 95.05 82 17
Aiddle	Mahmoudeya - CC New Mahmoudeya	0.790 9.531	-20.077 6.60	2641.38 30.75	0.332 2.849	420.34 298.94	20.87 29.35	75.00 287.00	0.12 0.38	0.03 0.32	99.91 99.82
2	El-Atf - CC Banha - CC	4614.833 4649.709	4510.04 4563.917	2.27 1.85	748.400 716.196	162.17 163.71	54.10 53.59	777.90 736.97	67.54 71.83	70.05 70.58	94.93 95.39
_		24824.03	24305.05	2.09	4058.47	163.49	53.67	4356.45	64.87	49.58	94.45
	Kafr EI-Dawar - Steam	0 1397 29	-8.675 1351 65	0 3 27	0 327 18	0 234 15	0 37 48	0 301 80	0 52 71	0 53.02	100 96.87
	Damanhour - CC	0	-2.738	0	0	0	0	0	0	00.02	100
~	New Abu Qir - Steam	6704.48	6444.41	3.88	1448.48	216.045	40.62	1244.37	61.34	58.71	98.05
elta	Abu Qir (1-4) - Steam	0.529	-8.875	1777.69	0.166	314.19	27.92	102.00	0.059	0.01	100
St D	Abu-Qir (5)	105.625	73.261	30.64	25.868	244.90	35.82	300.00	4.01	4.01	68.23
Ne	Abu-Qir - Gas	0	0	0	0	0	0	0	0	0	100
	Sidi Krir 1&2 - Steam	2801.15	2684.93	4.15	654.95 794.019	233.816	37.53	604.00 800.00	52.80	49.83	92.86
	Matrouh - Steam	4052.04	416 649	6.53	126.01	282.68	31.04	56.00	09.05 90.62	73.05 84.58	95.79 95.43
	Total	16306.86	15666.18	3.93	3367.57	206.51	42.49	3066	60.54	44.70	94.94
	Walideva -Steam	2627.15	2511.96	4.38	604.22	229.9	38.14	530	56.43	49.85	87.84
	Kuriemat - Steam	662.809	630.38	4.89	146.44	220.93	39.71	630	11.97	6.02	98.01
ypt	Kuriemat 1 - CC	2209.66	2156.60	2.4	352.91	159.71	54.93	762	33.01	33.54	87.42
Ш	Kuriemat 2 - CC	3952.80	3872.08	2.04	620.20	156.90	55.92	777	57.91	60.00	92.28
per	West Assiut - CC	2858.69	2749.97	3.8	523.08	182.98	47.95	1357	23.98	21.69	99.51
d ∩	South Heiwan	5136.196	4987.24	2,9	1037.2	201.93	43.45	1724	33.92	29.98	85.23
	Total	19924 63	19294 56	3.16	3804 47	190.94	45.95	4739	40.23	30.43	91.33
_		24659 4	23000.26	3.04	3710 /0	150.83	58 16	11135	63.18	58.48	83.42
	Beni Suef - CC	23548.3	22870.24	2.87	3563.75	151.33	57.98	4772	56.18	55.85	87.32
ts	New Administrative Capital - CC	28780.8	27985.91	2.76	4333.83	150.58	58.26	4642	70.58	68.26	97.23
Plan	Total Siemens	76988.6	74765.4	2.89	11617.1	150.89	58.15	12035	72.83	60.87	89.33
오	Sidi Krir (3&4) Steam	1642.42	1496.55	8.88	352.61	214.69	40.86	623	30.01	27.39	93.13
Ш	Suez Gulf – Steam	812.765	743.252	8.55	174.45	214.64	40.87	710	13.03	13.55	92.12
	East Port Said	1344.3	1240.03	7.76	291.96	217.18	40.39	653.8	23.93	22.92	88.33
	Total	80788.1	78245.24	3.14	12436.11	153.93				55.97	
Private Sector	East Port-Said**	87.328	81.355	6.84	18.754	214.75	40.85	653.8	69.57	66.64	
Т	OTAL THERMAL	202401.113	196018.292	3.15	35568.045	175.73				44.02	

Co.	Power Plant	Generated Energy GWh	Transmittd Energy GWh	Self- Consumption Rate%	Consumd fuel K toe	Fuel Generation Rate gm/kwh	Thermal EFF. %	Peak Ioad MW	load Factor %	Cap. factor%	AV. Factor%
o Plants	High Dam Aswan Dam I Aswan Dam II New Essna	10544.929 1671.779 1687.198 465.495	10491.204 1639.869 1676.939 459.735	0.51 1.91 0.61 1.24			  	2460 274 270 85.2	48.8 69.46 71.14 62.2	57.17 67.97 71.14 61.85	91.79 95.24 88.11 92.46
Hydr	Naga Hamadi Assiut	451.888 235.202	445.265 230.562	1.47 1.97				66.40 36.89	77.48 72.58	80.38 83.68	98.50 98.05
	Total-Hydro	15056.491	14943.574	0.75				3072.5	55.79	60.53	92.03
Renewable Energy	Zafarana - Wind Gabal El-Zeit - Wind Ras Gharib (Shouqir) Wind Fostas(KFW) Lakela (Pr. Sector) Wind Kuriemat - Solar Zafarana - Solar Benban PV (Pr.	1173.021 2410.182 1181.688 551.534 1021.557 746.037 97.438 4395.377 53.795	1155.979 2406.826 1180.922 550.436 1020.644 715.483 97.173 4256.185 51.372	$ \begin{array}{r} 1.45\\ 0.14\\ 0.06\\ 0.20\\ 0.09\\ 4.10\\ 0.27\\ 3.17\\ 4.50\\ \end{array} $	      	      	     	      	      	      	      
	Sector) Kom Ombo - PV										
	Total Renewable	11630.628	11435.019	1.68							
	Total Connected Grid	229088.232	222396.885	2.92	35568.045	175.73	49.93				
tal	Isolated & Reserved Plants	183									
<u>م</u>	Purchased from IPPs	13	-	-		-					
	Total Unified Grid*	229284	222396.885	2.92	35568.045	175.73	49.93				

### \* Including operating tests.

- Average load MW
- Load Factor %
- Capacity factor %
- Thermal Efficiency %
- Availability Factor %



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\*\* The ownership of East Port -Said (Private Sector) was transferred and added to EEHC plants on 9/7/2023.

- Fuel consumption rate gm/kwh (gen.) = Quantity of fuel consumed (toe) / Quantity of energy generated (GWh)
  - = (Energy generated MWh / Number of hours)
  - = (Average load / Maximum load during the period) × 100
  - = (Average load / installed capacity) × 100
  - = {860 × 1000 / (9800 × Av. Fuel Consumption (gen.))} × 100
  - = ((Operation hours' + reserve hours') / period hours') ×100





## Hydroelectric Energy

Description		High Dam	Aswan 1	Aswan 2	Essna	Naga Hammady	Assiut	2023/2024
Generated Energy	(GWh)	10544.929	1671.779	1687.198	465.495	451.888	235.202	15056.491
Peak Load	(MW)	2460	274	270	85.2	66.4	36.9	3072.5
Maximum daily generated energy	(GWh)	50.403	6.508	6.488	1.955	1.592	0.905	64.673
Minimum daily generated energy	(GWh)	14.338	2.599	2.593	0.347	0	0	24.326
Efficiency	(%)	86.73	84.81	89. 60	84. 98	85.90	87.74	

**Development in Generated Hydroelectric Energy** 







- consumtion in 2022/2023.

### **Consumed Fuel by Type**

Description	H.F	ē.O.	N.C	N.G.		L.F.O. (Ordinary & Special)		
	K tons	K toe	Million m <sup>3</sup>	K toe	K tons	K toe		
Total Fuel 2022/2023	4796	4731	34142	28751	17.3	18.0	33499.466	
Total Fuel 2023/2024	5742.3	5705	35361.6	29758	100.5	105	35568.045	
Growth Rate%	19.73	20.6	3.57	3.5	480.94	483.3	6.17	

#### toe: ton of oil equivalent

#### Fuel consumed in the year 2023/2024 includes:

- 12436.11 K toe.



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### **Fuel**

• The policy of operating the existing thermal power plants is based on considering natural gas as the primary fuel due to its distinct economic and environmental advantages.

• The utilization rate of natural gas of power plants, including both private sector and EEHC power plants reached, 83.67% of the total fuel consumed in 2023/2024, Meanwhile it represented 85.82% of the total

• Fuel for commissioning tests, private sector, and EEHC plants.

• Consumed fuel in private sector power plants amounts to 22.006 million m<sup>3</sup> of natural gas and 0.346 K ton of HFO, totaling an equivalent to about 18.754 K.toe.

• Consumed fuel (natural gas) in EEHC power plants (Burullus, New capital, Beni-Suef, Sidi-Krir 3&4, Suez Gulf and East Port -Said) amounts to 14778.62 million m<sup>3</sup> of natural gas, totaling an equivalent to about

• Excluding fuel consumed in non-connected and reserved plants amounting to 34.8 K.toe.





## Fuel Consumption by Generation Type (k.toe)

Genera	tion Type	2022/2023	2023/2024	Growth Rate%
Steam	Subsidiaries	9390	11467.21	22.12
(k toe)	Private Sec.	1150	18.754	(98.37)
Gas (k toe)	Subsidiaries	608	352.826	(42.01)
Combined	Subsidiaries	11484.901	12112.18	5.46
Cycle (k toe)	Burullus, New Administrative Capital, Beni-Suef	10866	11617.07	6.91
То	otal*	33499,466	35568.045	6.17





\* Total fuel includes commissioning tests.









### Fuel Consumption by Companies 2023/2024



### **Development in Fuel Consumption Rate (Gen.)\***



### Non-connected and Reserved Power Plants (2023/2024)

In some electricity companies there are isolated power plants that are not connected to the Unified National Grid. These are mainly constructed to meet the requirements of remote areas of electricity needed for touristic projects and other purposes with a total installed capacity amounting to about 156 MW.



### Installed Capacity and Energy Generated from Non-connected and Reserved Plants\*

DisCo.	Туре	Installed Capacity (MW)		Energy Gene	erated (GWh)	Energy Dispatched (GWh)	
		2022/2023	2023/2024	2022/2023	2023/2024	2022/2023	2023/2024
Canal	Diesel	107.4	47.60	46.9	48.28	46.8	48.17
Ganai	Solar	14	14	7.27	11.48	7.27	11.48
Pahaira	Diesel	41.11	41.11	54.0	58.06	52.20	55.23
Dellella	Solar	10	10	12.1	17.90	11.93	17.40
Middle Equat	Diesel	34.5	34.5	35.92	41.44	34.45	40.29
	Solar	6.28	6.28	6.78	5.54	6.73	5.53
Upper Egypt**	Diesel	2.94	2.94	0	0	0	0
	Diesel fuel	185.95	126.15	136.82	147.78	133.45	143.69
Total	Solar	30.28	30.28	26.06	34.92	25.93	43.41
	Diesel fuel + Solar	216.23	156.43	162.9	182.7	159.38	178.1

\* Including non-connected power plants operated for the Company's account and for third parties.

\*\* The units (4 diesel units) operate as a backup for Abou-Simbel tourist sub-station and only for emergencies and visits.

Co2 Ton/GWh	
385	383,52
380	
375	
370	
365	
360	
355	2019/2020
375 370 365 360 355	2019/2020

#### During 2023/2024:

- environment laws.

## CO2/GWh in 2023/2024, and this is due to:

- Increasing the share of new and renewable energies (wind / solar / hydro) in the generation mix to reach 11.65% of the total energy generated in 2023/2024.
- The operation of EEHC's power plants (Burullus /Beni Suef /New Administrative Capital) which are characterized with their high efficiency and low fuel consumption, and the increase in their percentage of the total energy generated to 33.6%.
- The increase in the participation rate of the combined cycle generation in the production
- companies, including EEHC's power plants, to reach 65.03% of the total generated energy.
- Operation of the steam plants operated at supercritical pressures with high efficiency and lower consumption rates, such as (Ain Sokhna, South Helwan, 9th Cairo West, and New Walideya).





### **Environmental Commitment of Thermal Plants**



1- Linking all power plants to the environmental emissions monitoring network of the Ministry of Environment. 2- Introducing the Near-Zero Liquid Discharge (NZLD) system to reduce the amount of industrial wastewater. 3- Complying with the rates of other emissions (CO, SO<sub>X</sub>, NO<sub>X</sub>) in accordance with the Egyptian and international

4- Reusing treated wastewater to plant non-fruit trees inside the stations.

As a result of these efforts, the environmental indicators of thermal power plants reached 380.3 tons



### **Co<sub>2</sub> Emissions**



### **Emissions of Greenhouse Gases at Thermal Power Plants** 2023/2024

Company	Power Plant	Capacity	Greenhouse Gases (Scope 1)
			(Kg of CO <sub>2</sub> equivalent)
	Shoubrah El-Kheima steam	1295	3582090545.47
	West Cairo 9 steam	650	1844363733.15
	West Cairo 5&6 steam	660	1058616076.07
0	West Cairo 7&8 Ext.	700	1198300050.13
Cair	Tibeen steam	700	1272300960.59
U	Giza North combined	2250	2914504392.15
	6 <sup>th</sup> of October Gas	600	148130315.89
	6 <sup>th</sup> of October Ext.	918.5	1453697887.84
	North Cairo combined	1500	2914310059.51
	Ataqa Steam	600	2594907.31
	New Ataqa Ext.	640	5241910.27
	Abu-Sultan steam	600	462324830.33
	El-Arish steam	66	41270869.08
	El-Arish Gas	250	629321558.14
	Oyoun Moussa	640	1072061649.04
	New Shabab	1500	4036901632.16
	Port-Said Ext.	84	111.19
elta	New Damietta Gas	250	57455179.22
ŭ	West Damietta Combined Cycle 1	750	732960623.15
Eas	West Damietta Combined Cycle 2Ext.	750	895762424.76
	Damietta combined cycle	1200	1088162572.61
	Ain Sokhna	1300	3076120855.19
	Suez thermal	650	2148430304.47
	Sharm Elsheikh	288	18202.14
	Hurghada Ext.	288	10128025.62
	Massaeed	49	22304.1
	Suez Gulf	682.5	421286101.53
	East Port- Said	682.5	751673879.66

Company Talkha (21 Talkha Ga Middle Delta Talkha cor Nubareya Mahmoud New Mahr Banha cor AI-Atf Con Kafr-El Da Damanho Abu-Qir ( Abu-Qir ( West Delta Abu-Qir E Sidi-Krir st Matrouh s Damanhou Sidi-Krir C Sidi-Krir ( Walideya New Assiu Upper Egypt South Hel West Assi Kuraimat Kuraimat **Kuraimat** New Adm. EEHC Beni-Suef Burullus

\* Greenhouse gas emissions Scope 1 (CO2, CH4, N2O) are referred to as "greenhouse gases directly generated by the facility", which are defined as "emissions from sources that the facility directly owns or controls".

\* GHG emissions calculated according to IPCC6-2006 –Global warming potential AR5.



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Power Plant	Capacity (MW)	Greenhouse Gases (Scope 1) (Kg of CO <sub>2</sub> equivalent)
10)Ext. Steam	420	
as & Combined Cycle	290	
mbined (750)	750	1833365831.84
Combined Cycle	2250	4148012483.59
leya Combined Cycle	317	754042.63
moudeya	336	7193767.90
mbined	750	1817852591.46
mbined Cycle	750	1753849131.94
awar steam	220	428571.14
ur Ext. steam	300	866789650.99
300 M.W)steam	335	51832392.06
150 M.W)	600	378905.41
xt. (650 M.W)	1300	4271314122.75
team	640	1822390827.45
steam	60	283385208.01
ur combined cycle	158	
Combined Cycle	750	1895377832.44
3&4)	682.5	869555502.00
steam (Diesel)	600	1897941699.28
ut steam	650	1494299574.79
lwan	1950	2941323295.26
iut	1500	1264653739.80
steam	1254	397868854.14
Combined Cycle 1	750	847263157.09
Combined Cycle 2	750	1489543242.75
. Capital	4800	10501205965.2
	4800	8529980859
	4800	8944916747.23



Egyptian Electricity Holding Company

### Environmental, Social, Health, Safety & Monitoring Management Systems, and Preparation of Performance & Quality Measurement Reports

EEHC's environment & social policies state that its most important and prominent objective is to "protect the environment, people and communities as a first priority".

Therefore, EEHC's policies are implemented by all affiliated power plants' personnel as part of the EHS management system that is inspected and monitored by EEHC and the Egyptian Environmental Affairs Agency (EEAA).

EEHC's policies are fully aligned with all requirements set out in the relevant international standards, including the standards for Environmental Management Systems (ISO-14001), Occupational Health & Safety Management Systems (OHSAS-18001) and the IFC Performance Standards for Environmental & Social Sustainability (IFC-PS), as these policies with EHS management systems are followed in all power generation plants in accordance with the executive regulations that are included in the power plants ESIA (Environmental & Social Impact Assessment) and complies with the operational mitigation and monitoring commitments made in the ESIA and subsequent studies submitted and approved by EEAA.

The implementation of the IFC-PS management system is aligned with Egypt's developmental and climate change policies and agreements (the United Nations Framework Convention on Climate Change (UNFCCC) and Paris Agreement ratified in 2017), so an MRV system (monitoring, reviewing and verifying system) is applied in all the power plants as we receive data on the type of fuel, volume of the fuel consumed and if there is any SF6 leakage taking place, and thus we have a system to calculate and publish the GHG produced from each power plant on an annual basis.

GHG reports contribute to the greenhouse gas inventory (GHGI), GHG Mitigation and Support requirements and support them, monitor the performance of our power plants and to make sure of the presence of effective monitoring, reporting and verification (MRV) system. This is to ensure that data is reported in a transparent. accurate, complete, comparable and consistent manner.

Management procedures were established by EEHC's E&S Management team in order to ensure and fulfil an adequate and ongoing implementation of the EHS management system as well as the regulations and policies set out within the national and international regulations, a matter which required the creation and application of the following:

- An effective monitoring and reporting mechanism has been established over the past years, where all the operational E&S data and information are obtained and collected by EEHC's E&S Management team as this data is required to demonstrate the E&S performance and conformance to the Plant's operation management program (OMP) and all other commitments.
- EEHC's E&S Management system has been implemented in most of the affiliated power plants for managing a maintaining data requirement in relation to the power plants Environmental & Social Management Manual (ESMM) and related aspects of the management system and to ensure the accuracy of the records (MPM).

#### A. Monitoring and Measurement:

All monitoring requirements for the operational phase of all power plants are consolidated into the Plant's Monitoring Program Manual (MPM), to define the parameters, responsible party and frequency of emission and ambient monitoring for the Plant, in alignment with monitoring requirements identified in individual OMPs.

All Environmental & Social monitoring activities are completed as identified in the MPM and individual OMPs. To ensure the adequacy of monitoring and measurement, the MPM details define the requirements for all calibration, inspection, and test equipment requirements as per the international and national standards.

A report is delivered monthly from the power plants which assesses the E&S performance of each power plant and ensures a focus on continual improvement for the management of E&S risks KPIs (key performance indicators) and also provides a regular check of progress towards achieving E&S objectives and targets,

#### B. Operational Monitoring Program (OMP):

This Program defines the roles and responsibilities for the environmental and H&S performance reporting to EEHC and/or internal and external stakeholders, including reviewing and approving data and information collected and reported.

#### C. EHS-Self Monitoring Report:

This report includes the Environment and Social (E&S) aspects of all power generation plants as it provides information and progress updates on the plant operational performance by EHS team on EEHC's website annually throughout the operation phase and is used to compare the plants' annual performance during operation against key indicators. This report aligns with the requirements set out by the Egyptian Environmental Law and WB/IFC Environmental, Health, and Safety Guidelines.

#### D. Document Control System (DCS):

The DCS is implemented in the majority of power plants and is managed by uploading the needed E&S monitoring documents on a monthly basis to the unlimited web-based storage unit. EEHC Environment Department undertakes continuous follow-up and coordination with the power plants to carry out an annual training needs assessment and reports to the stakeholders internally and externally any competency gaps and training needs, as per the competencies stated in the implemented OMPs.

A grievance/complaints mechanism has been established in all EEHC affiliated power plants that utilizes all the available communications (e.g. postal delivery, telephone, e-mail, etc...) to ensure that every grievance from any plant worker and/or the community is addressed and solved.

### **Optimal Management of Generation Assets:**

#### EEHC manages its assets in the best ways to achieve optimal asset management, as follows:

- a safe work environment.





which is communicated to internal and external stakeholders and the regulatory environmental authorities.

Monitoring results for all E&S topics are analyzed by our environmental studies' team to determine trends, issues and/or potential future exceedances, and these results are documented.

1- Permanent and continuous coordination between the affairs of production companies and operating sectors under national control by setting operating patterns that achieve economic and optimal operation for all power generation stations affiliated with the Egyptian Electricity Holding Company in light of achieving the petroleum sector's target of natural gas and diesel.

2- Activating the unified network stability systems (PSS&AGC&FC) in all stations of the Egyptian Electricity Holding Company to ensure the safe and stable operation of the unified network.

3- Working to improve the technical performance indicators for all stations of production companies affiliated with the holding company by activating the role of the central committees for production companies' affairs, which include the committee (malfunctions, safety and occupational health, inspection, quality control and chemistry), which contributed to raising the performance of the operating system while maintaining

Egyptian Electricity Holding Company

### Annual Report 2023/2024

## **Electricity Power Plant Projects**

#### Construction of 2400 MW Pump and Storage Power Project in Mount Ataga, Suez:

- Since the date of signing a contract agreement with Sinohydro Co. of China during the official visit of the Egyptian President to Beijing, in an estimated cost of about USD 2.7 billion, subject to completion of the general and special conditions and the technical specifications:
- · Workshops were organized to reach a draft contract for the Project.
- The implementation of the Project is under study according to the current global changes through the EPC + Finance system, a group of investors, or the private sector, in light of the failure to provide the required financing as reported by the Ministry of International Cooperation.

### **Construction of 375 MW Power Project in El-Arish:**

• It is planned to begin implementing the conversion of the gas units that were transported to the Arish site and were operated commercially on 11/8/2023 to operate on the combined cycle system, so that the total capacity becomes 375 MW without the use of additional fuel, if the required financing arrangement is approved.

### The 9<sup>th</sup> Five-Year Plan (2022-2027):

A set of scenarios for the growth of peak load and demand for energy has been prepared up to the year 2029/2030 and plans for the expansion of generation capacities corresponding to these scenarios have been developed aiming to meet the peak load and energy demand with providing an appropriate reserve of generation capacities. The most likely scenario for average load and demand is expected to be the one with which no additional thermal generation capacities are required during that period.

#### Status of private sector power plants (BOOT projects):

#### Sidi Krir station (3,4):

- The agreement to purchase electrical power for the Sidi Krir power station has expired (4,3) (Private sector) on 26/1/2022, and since the date of transfer of ownership of the station on 27/1/2022, the station is considered under the possession and responsibility of the West Delta Electricity Production Company. On 21/7/2024, the Board of Directors of the Holding Company issued a decision to include the Sidi Electricity Station. Kerir (4,3) for stations affiliated with the West Delta Electricity Production Company.
- On 12/5/2024, the annex to the electrical power purchase agreement was signed between the Egyptian Electricity Holding Company and the Sidi Kerir Electricity Generating Company, which is the official document to complete the process of legally transferring ownership of the station to the holding company, free of any mortgages or burdens.
- On 22/12/2024, the General Assembly of the Egyptian Electricity Holding Company approved the transfer of the assets and liabilities of Units No. (3, 4) at the Sidi Kerir steam station to the West Delta Electricity Production Company.

#### **Suez Gulf Power Plant:**

- The power purchase agreement for the Gulf of Suez Power Plant (private sector) ended on 12/2/2023, and the Egyptian Electricity Holding Company has authorized the East Delta Electricity Production Company to technically receive the station due to its location within its geographical scope, which is currently operating and maintaining the station.
- All necessary measures are currently being taken by the Egyptian Electricity Holding Company and the Gulf of Suez Power Company to ensure that each party fulfills its contractual obligations in preparation for signing an addendum to the power purchase agreement, which is the official document that will be relied upon to complete the process of transferring ownership of the station legally to the holding company free of any mortgages or burdens.

#### **East Port Said Power Plant:**

 The power purchase agreement for the East Port Said Power Plant (private sector) ended on 9/7/2023, and the Egyptian Electricity Holding Company has authorized the East Delta Electricity Production Company to technically receive the station due to its location within its geographical scope, which is currently operating and maintaining the station. -All necessary measures are currently being taken by the Egyptian Electricity Holding Company and the East Port Said Power Company to ensure that each party fulfills its contractual obligations in preparation for signing an addendum to the power purchase agreement, which is the official document that will be relied upon to complete the process of transferring ownership of the station legally to the holding company free of any mortgages or burdens.





Egyptian Electricity Holding Company



### **Information about Production Companies**

	Head Office	Capital (in million EGP)	Ratio of Capital to EEHC Investments	Address	Phone & Website
	Cairo	3399.925	8.28 %	22 Shanan St., Sabteya	02-25793054 02-25740550 www.cairoepc.com
ort ai, ed	Ismaileya Governorate	7463.035	18.17 %	Shebin El-koum St. next to RCC	064-3201492 064-3205146 <u>www.edepco.com.eg</u>
, 1	Daqahleya Governorate	3437.250	8.37 %	Compost road, Talkha	050-2524149 045-35473804 <u>www.mdepc.gov.eg</u>
g d	Alexandria Governorate	1642.170	4 %	7 Riyadh St, Gleem	03-5761375 03-5744147 <u>www.wdpc-alx.com</u>
s),	Giza Governorate	8412.410	20.49 %	Next to Giza Zoo	02-38781300 082-9210733 www.ueep.com
-	Aswan Governorate	667.874	1.63 %	High Dam - West Sahara	097-3480412 097-3481974 www.hpgc.com.eg





Egyptian Electricity Holding Company (EEHC)

# Transmission of Electrical Energy

In light of the Electricity Law no. 87 of 2015, the Egyptian Electricity Transmission Company (EETC) has become an independent company. As a primary measure, the Prime Minister's Decision no. 1959 of 2017 was issued in formation of the General Assembly of EETC, and the activity of the Company has been included within the activities of the Holding Company, with incorporating the capital of EETC in the investments of the Holding Company until the separation process is completed.



# **Egyptian Electricity Transmission Company**

Company Name	Geographical Zone	Head Office	Equity Capital (m. EGP)	Ratio of Capital to EEHC's Investments	Address	Phone
Egyptian Electricity Transmission Company (EETC)	Electricity transmission networks on ultra-high & high voltages across the country	Cairo	9971	24.27 %	New Administrative Capital, Governmental District	02/20541850

### **Objectives of The Company:**

- Optimal operation of the electricity transmission network in order to achieve efficiency, stability and reliability.
- Managing and maintaining the electricity transmission network, implementing energy transmission projects on ultra-high & high voltages in an optimal economical way, and preparing the Load forecasting studies and plans.
- (3) Coordinating with the Egyptian Electricity Holding Company in respect of studies related to the production and transmission of electricity to meet the needs of all consumers.
- (4) Implementing the projects of electricity interconnection and energy exchange with other countries in accordance with the agreements concluded in this regard.
- (5) Making information and statistics available to all parties of the Electricity Utility without discrimination.
- Coordinating with the Nuclear Power Plants Authority (NPPA) to prepare studies in (6) accordance with the requirements of the International Atomic Energy Agency (IAEA) for interconnection with the national electricity transmission network.
- Coordinating with the Hydro Power Plants Executive Authority (HPPEA) and the New and Renewable Energy Authority (NREA) to prepare studies for interconnection with the national electricity transmission network.
- (i) Executing electrical power transmission Projects on ultra-high and high voltage and preparing The Load forecasting studies and plans.

### **Transformer Substations:**

	2022/2	2/2023 20		23/2024	Growth Rate (%)			
	Total Transform	ners' Capacity (N	/IVA) 1995	199517 20		4716.2	2.6	
On Ultra High & High Voltages	Number	of Substations	77	2		780	1.03	
ingn voltagoo	Number o	of Transformers	306	64		3112	1.56	
Year		2022/2023		2023/2024				
	Capacity	Substations	Transformers	Capacity		Substation	Transformers	
voltage (KV)	MVA	(S.S.)	(Tr.)	MVA		(S.S.)	(Tr.)	
22-33	1291	24	95	1216.3	3	24	79	
66	69256	511	2192	70926.	.4	515	2241	
132	3524	16	74	3524	3524 16		74	
220	79270	189	620	80875		192	632	
400-500	46175	32	83	48175		33	86	
Total	199517	772	3064	204716.2		780	3112	







### Transmission Network Statistics (on 30/6/2024)

iption	2022/2023	2023/2024	Growth Rate (%)
ansformers' Capacity (MVA)	199517	204716.2	2.6
umber of Substations	772	780	1.03
mber of Transformers	3064	3112	1.56





### Total Lengths of Circuits (overhead lines & cables) 58289.4 Km:

Description				2	2022/2023		2023/2024	Growth Rate (%)	
On Extra High & Total Lengths of High Voltages Circuits (km.)		ngths of s (km.)		57504		58289.4	1.36		
Voltage (KV)	2019	/2020	2020/2	021	2021/2022	2	2022/2023	2023/2024	
22	2	1	21		1024		1024	1024	
33	17	46	1746		1785		1561	1396.7	
66	207	719	2100	)3	21805		22112	21930.8	
132	24	85	2485		2559		2559	2559.2	
220	207	700	213	95	21601		21912	22691.4	
400-500	62	85	7204		7691		8335	8688.1	
Total (Km)	519	956	538	54	56465		57504	58289.4	

### **Circuit Lengths (on different voltages)**% 2023/2024



### **Total Purchased and Sold Energy:**

Descr	iption	2022/2023	2023/2024	Growth Rate (%)
Purchased Energy	GWH	208633	221478.58	6.2%
Sold Energy	GWH	201521	213984.29	6.2%

- Energy sold by EETC in 2023/2024 includes:
- 179514.175 GWH to DisCos.
- interconnection countries.

### Energy Sold by EETC including Energy Sold to DisCos









• Purchased energy includes in-kind purchases (incoming energy from interconnection countries).

- 34470.115 GWH to the private sector (BOOT), customers, colonies, and in-kind energy exported to the









## **Electrical Interconnection ND Regional Electricity Market**

 The Ministry of Electricity and Renewable Energy is keen on supporting and developing the unified national grid to transform Egypt into a regional and global hub for energy trading between the Arab countries, Africa, and Europe, In line with this attitude. EEHC adopts new policies aimed at constructing an infrastructure for energy trade at regional and international levels by means of electrical interconnection with the neighboring countries through the existing interconnection projects with Jordan, Syria, Libya, and Sudan, as well as the project being implemented with Saudi Arabia, As well as the projects planned to be implemented with Cyprus, Greece, and the Gulf Interconnection Authority, and participation in regional electricity markets...

### First-Regional Interconnection with Neighboring Countries:

The efforts of the Egyptian Electricity Transmission Company in the field of electrical interconnection with neighboring countries:

- The Egyptian Electricity Transmission Company is keen to strengthen and develop the unified electrical network to make Egypt a regional center for energy exchange through:
- 1. Supporting existing regional connectivity projects with (Jordan, Libya and Sudan)
- 2. The electrical interconnection project being implemented with the Kingdom of Saudi Arabia.
- 3. Interconnection projects being studied between (Egypt/Jordan/Gulf Interconnection authority, Egypt/ Greece, Egypt/Italy).

Description	Egypt/Libya Interconnection Line	Egypt/Jordan Interconnection Line			Egypt/Sudan Interconnection Line
Interconnection date	May 1998	October 1998			April 2020
Connectivity voltage (KV)	220	400			220
Interconnection Countries	Libya	Jordan Syria Lebanon			Sudan
Outgoing & Sold Energy (GWH)*	446	349.7	-	-	532
Incoming & Purchased Energy (GWH)*	-	-	-	-	

\* In addition to 87 GWh in-kind outgoing energy, and 84 GWh in-kind incoming energy during the year.



### Incoming and Outgoing Energy

### Annual Report 2023/2024

### The Arab electrical interconnection helps to achieve many gains, the most important of which are:

- Achieving an economic return.

### The following is the status of existing electrical interconnection projects. currently being implemented and currently being studied: **Egyptian / Jordanian Interconnection:**

### **Egyptian / Libvan Interconnection:**

- interconnection between the two grids.
- linking Egypt with the Maghreb countries.

### **Egyptian / Sudanese Interconnection:**

- capacity of up to 80 MW.

### **Egyptian / Saudi Interconnection:**

### Egyptian / Jordanian / Gulf Interconnection:

consultant.





• Increasing the reliability of electrical networks by reducing the occurrence of repercussions in cases of forced disconnection, including the exit of generating units or the disconnection of main lines in the network, which works to protect the networks of the interconnected countries from the risks of total or partial shutdown.

Integrating many new and renewable energies into the networks, which contributes to achieving sustainability.

• Implementing the global systems used in international interconnection networks, especially European ones, in preparation for the Euro-Mediterranean interconnection.

• Exchanging technical expertise through actual operation and joint committees for operation and planning.

 On 23/3/2021, a framework agreement was signed to enhance electrical interconnection capacities between Egypt and Jordan where, a technical and economic feasibility study has been completed to raise the current capacity of Egyptian / Jordanian interconnection line by the planning committee in both sides, this allows for power exchange of up to 2000 MW instead of the current 550 MW through HVAC technology.

• On 7-8/3/2023, meetings were held between the two sides to renew the energy supply contracts for 2023. The Libyan side reported that the necessary reinforcements had been made to the Libyan grid, and that the eastern and western regions had been connected to form a unified grid. The Libyan side requested a study into synchronous

 Technical data for the two grids was exchanged between the Egyptian and Libyan sides. A static and dynamic model of the Libyan grid was created, and the required technical study was conducted. This concluded that a maximum possible capacity of 380 megawatts could be exported to the Libyan side, instead of 240 megawatts at 220 kV.

• A preliminary technical and economic study was conducted for a project to increase the capacity of the existing interconnection line to 2,000 megawatts at 500 kV. The implementation of this project represents the first phase of

• Work is underway to expand the 500 kV Burj Al Arab Entertainment Station and the 500 kV East Matrouh Station, expected to be completed by the end of 2024 to support the Egyptian/Libyan interconnection.

• On 20/4/2021, the Sudanese network is being fed from the Egyptian grid within the first phase of feeding, with a

• Two (2) STATCOMs with a capacity of ±150 MVA are being installed at the Merowe and Dongola stations on the Sudanese side to increase the capacity transferred to the Sudanese side to 300 MW at 220 kV.

• All equipment has been installed on the Egyptian side, and a STATCOM with a capacity of ±200 MVA has been installed. On 15/4/2023, work was completely stopped due to the ongoing political events in Sudan.

 The project aims to exchange 3000 MW between the two countries through the bipolar HVDC transmission technology at a ultra-high voltage direct current voltage of ±500 kV. The project is composed of three packages and all contracts for the project packages in both sides were signed on 5/10/2021. And the advance payment for each package has been affected (local and foreign components), and implementation is underway.

• On 1/1/2023, a non-disclosure agreement was signed by the Egyptian Electricity Transmission Company (EETC), the Gulf Cooperation Council Interconnection Authority (GCCIA), the National Jordanian Electricity Company (NEPCO), and the consultant EGI, appointed by the GCCIA to study the project structure. The required data was sent to the



### Egyptian Electricity Holding Company

- The project's profitability assessment study has been completed.
- The project structure is currently being studied by the consultant (EGI), appointed by the GCCIA.
- The study is being updated in light of grid changes, such as the introduction of renewable energy and interconnection with Europe.

#### **Egyptian / Italian Interconnection:**

- On 4/10/2022, an agreement of Intent was signed between EETC and K&K group of the United Arab Emirates to start discussions for clean energy export project from Egypt to Europe with a capacity up to 3000 MW.
- On 1/11/2023, a non-disclosure agreement was signed by the Egyptian Electricity Transmission Company, the K&K Group, and the group's consultant, CESI.
- Several meetings were held between representatives of the Egyptian Electricity Transmission Company and the group's CEO.
- On 16/2/2024, the Irish consultant ESBI was appointed by the Egyptian Electricity Transmission Company to review the studies and documents submitted by the group and provide technical advice.
- The studies submitted by the K&K Group are currently being reviewed by the consultant ESBI and representatives of the Egyptian Electricity Transmission Company.

#### **Electrical Interconnection between Egypt, Cyprus and Greece:**

- On 16/10/2021, a bilateral memorandum of understanding was signed between Egypt and Cyprus.
- On 26/10/2023, a virtual meeting was held between the Egyptian and Cypriot sides to discuss the next steps for the connection.

#### **Egyptian / Greek Interconnection:**

- On 14/10/2021, a bilateral memorandum of understanding was signed between Egypt and Greece to study an electrical interconnection with an electrical capacity of approximately 3,000 megawatts (MW) at ±500 kV direct current (HVDC).
- The Egypt-Greece (GREGY) electrical interconnection project was included in the final list of projects of mutual benefit (PMI) in the European Union (1st PMI List).
- On 25/4/2024, the project developer (ELICA) announced the publication of the terms and specifications for the technical and economic feasibility study of the project in an official Greek newspaper.

### Second: Continental electrical Interconnection:

#### **Continental Electricity Interconnection Project and Electricity Market:**

- The importance of the master plan for the continental electricity interconnection project lies in its presentation of the current status of electricity interconnection networks, their future capacities, and expansions within the five energy clusters in Africa. It also identifies the electricity interconnection projects to be selected in the second phase of the Priority Projects Plan of the Africa Infrastructure Program (PIDA PAP2).
- The first phase of the study was completed in October 2020, and the second phase is currently being completed in cooperation with the five energy blocs in Africa, and ongoing coordination, communication, and virtual meetings with members of the technical committees from the member states to discuss the study reports (13 reports) with energy demand forecasts, planning and modeling scenarios, study results, and cost-benefit analysis, in cooperation with the NEPAD Agency, the European Union consultant, and the International Renewable Energy Agency, and presenting the reports to the African Union Specialized Technical Committee (STC).

#### The Egyptian Electricity Holding Company's membership in the East African Power **Pool (EAPP):**

• With its history, location, and human resources, Egypt is a leader in the electricity system on the African continent, particularly in electrical interconnection with African countries and blocs. Through its membership in the East African Power Pool (EAPP), Egypt currently has (13) member countries, led by Egypt, with its significant capabilities





- Task 1 Compliance with the Grid Code
- Task 2 Capacity Balance

- Finalization of the Pool Operational Guidelines

### Egyptian Electricity Holding Company



representing 22% of the African continent's capacity and approximately 70% of the pool's capacity. This is in addition to the efficiency, quality, and safety of the Egyptian electricity system. Egypt participates in all the pool's events, meetings, and activities through its active participation in the meetings of the Ministerial Council and the pool's Steering Committee, as well as membership in the pool's Operations, Planning, Electricity Market, and Human Resources Committees. Egypt also currently chairs the pool's Electricity Market Committee.

• The governance structure of the Pool is now being reviewed to serve strengthening the institutional capacity in preparation for regional electrical interconnection, electricity trade between the African countries, and creation of a competitive market for electricity. The amendments proposed by member countries are being studied and reviewed with participation of members of the committees concerned in preparation for presenting them to the Ministerial Council and the Steering Committee for approval. The study of the effects of linking the energy Pool of the countries of Eastern and Southern Africa was completed in 2018 with the participation of the member states, and Egypt maintains its continuous participation in the following activities and projects:

First: Study of operational readiness for East African Power Pool countries:

• Egypt is participating with the East African Power Pool (EAPP) countries in cooperation with the World Bank (WB) to study the operational readiness of the EAPP countries based on the decisions of the Ministerial Council No. (14) Which was held on 21/2/2019 in Entebbe - Uganda, which includes the completion of the implementation of the tenyear strategic plan for the pool, and the study included the following:

- Task 3 - Evaluation of Current Grid Operator Training Programs

- Task 4 - Modeling and Analysis of Electric Power Systems





- During 2022, the Terms of Reference (TOR) for the consultancy services for the second phase of the Operational Readiness Study for the East Africa Power Pool countries were issued, with workshops commencing in October 2023 for the following tasks:
- Task A1: Static Model Validation
- Task B1: Dynamic Model Validation
- Task C1: Analysis of Reactive Power Compensation
- Task D1: Frequency Regulation Analysis
- Task E1: Preparation of an Investment Plan for Interconnection Code (IC) Compliance

#### Second: The Quarterly Report on Performance Indicators of the Egyptian Interconnection:

• The performance of the electrical interconnection networks with which Egypt participates is evaluated, where the performance indicators' data for the Egyptian/Libyan and the Egyptian/Sudanese interconnection lines is reported every three months to EAPP Secretariat through members of the operating committee in order to issue the quarterly report of performance indicators for the electrical interconnection lines within the Pool.



#### Third: The Electricity Market for the East African Power Pool countries:

- Egypt chairs the Electricity Market Committee in its current session, where the regional electricity market design project for the pool was completed with Egypt's participation, which aims to design an electricity trade market for the pool in a manner that is compatible with all current member states as well as the newly joined members of the pool (South Sudan and Somalia) and also compatible with the Southern African Power Pool (SAPP).
- The Energy Trade and Pricing Policy Agreement between the pool countries was also prepared. This is a bilateral agreement signed between countries wishing to transfer and trade electricity within the pool. It was reviewed by the member states through members of the working group responsible for this activity within the pool, in preparation for presenting it to the Steering Committee and the next Ministerial Council scheduled to be held during July 2023 for approval. Work has also begun on the pilot electricity market operation project with the participation of members of the East African Power Pool (EAPP) through interactive workshops and virtual meetings to discuss bids and trade results on the market training platform, which is the final preparation for the actual start of the regional electricity market in the pool.

#### Fourth: Power Balance Statement:

- A working group of member states was formed, in collaboration with the pool's secretariat, to prepare the annual capacity balance report based on the study on the initial operational readiness of the East African Power Pool countries. The reports are being prepared through virtual and in-person workshops.
- The report for 2019/2020 was issued during the study. A working group, in conjunction with the secretariat, prepared the report for 2021, and work is currently underway on the new report.

### Cairo - Cape Town Electricity Transmission Corridor and Cooperation with African Countries:

- plan for the energy pool of East African countries.

#### **Egyptian Danish Energy Partnership Program:**

- cost-effective manner.
- 4- Energy efficiency in Egypt's energy sectors.
- The Egyptian Electricity Holding Company actively participates in all activities, meetings, and workshops organized by the Danish side in coordination with the Egyptian side, including:

### Egypt's membership in international organizations:

- training, smart grids, and technical support.



• In January 2020, a preliminary study was prepared for the continental electricity interconnection between (Cairo - Cape Town) parallel to the land route currently being worked on between Cairo and Cape Town, which includes the first phase of the project between (Egypt - Sudan - Ethiopia), with this corridor to be used as the main route for interconnection across Africa. This project was included in the continental electricity interconnection study under the auspices of the NEPAD Agency. Work is also underway in cooperation with the NEPAD Agency to update the master

• Cooperation takes place with the African countries in the field of renewable energy in general and the supply and implementation of solar energy systems in particular. It also includes the exchange of experience in the fields of production, transmission and distribution of electricity and renewable energy, the dispatch of experts to study electrical projects and determine actual requirements for the purpose of providing the necessary consultancy services according to the needs of the African countries.

• The transformer repair workshop in the state of Burundi has been completed, and work is also underway to rehabilitate power stations in South Sudan, which had been previously gifted by the Egyptian side to the state of South Sudan.

• It is worth mentioning that EEHC participates in all events and meetings with the ministries concerned in related projects, for example Lake Victoria-Med Navigational Corridor Project (Vic-Med).

• The strategic sector cooperation agreement for the "Egyptian Danish Energy Partnership" 2020-2023 Strategic Sector Cooperation (SSC) between Egypt and Denmark includes the provision of a number of technical support areas from the Danish side to the Egyptian side through seminars, workshops, and study visits

• The program aims to consolidate cooperation between the Danish side and its Egyptian partners (the Ministry of Electricity and Renewable Energy, the Egyptian Electricity Holding Company, the Egyptian Electricity Transmission Company, the New and Renewable Energy Authority, and the Egyptian Electricity Utility and Consumer Protection Regulatory Agency) by providing advisory support to enhance the energy system's capacity to integrate generated renewable energy into the energy system in a cost-effective manner. It also aims to transfer Danish and European expertise in the field of energy market liberalization to Egyptian partners, provide support services, and ensure the stability and resilience of the energy system in Egypt, under the supervision of a high-level steering committee.

#### A work program was agreed upon, presenting four main action lines:

1- Increasing the capacity to plan the energy sector for variable renewable energy.

2- Enhancing the energy system's capacity to integrate renewable energy generation into the energy system in a

3- Evaluating and reviewing options for developing wind energy projects in Egypt.

- Working Group 1: Balmoral Modeling to work on Egypt's Energy Forecast Report.

- Working Group 2: Energy Market Design / Network Operating Codes / Ancillary Services / Electrical Interconnection.

• As part of the Egyptian electricity sector's efforts to transform Egypt into a pivotal energy hub, to exploit the significant opportunities for generating clean electricity from solar energy and wind farms, and to capitalize on energy investment opportunities, the Ministry of Electricity and Renewable Energy signed a cooperation protocol with the Global Energy Interconnection Development and Cooperation Organization (GEIDCO) in the areas of

• As a member of GEIDCO, the Egyptian Electricity Holding Company participates in meetings, conferences, and workshops organized by the organization at the African and global levels in the fields of international interconnection. electricity markets, renewable energy, and energy efficiency.



### Egyptian Electricity Holding Company

- Through its membership in international organizations around the Mediterranean Basin, such as the Association of Mediterranean Transmission System Operators (Med-TSO), the Union for the Mediterranean (UFM), and the Mediterranean Energy Observatory (MEO), Egypt has contributed to numerous studies, including:
- Participation in the preparation of the draft document for the work programs of the Regional Electricity Market Forum and the Renewable Energy and Energy Efficiency Forum.
- Studying the compatibility of the national code with the code of the Mediterranean Transmission Network Operators with the aim of achieving a joint electricity interconnection around the Mediterranean.

#### **Comprehensive Arab Electricity Interconnection - Arab Common Electricity Market:**



- The Arab Republic of Egypt actively participates in the Comprehensive Arab Electricity Interconnection Project. which establishes the Arab Common Electricity Market through its chairmanship of the Arab Ministerial Council for Electricity, its membership in the Executive Office, the Committee of Electricity Experts in Arab Countries, the Steering Committee (chairman of the committee), and the Comprehensive Arab Electricity Interconnection Study Team (a specialized team from the Egyptian Electricity Holding Company: legal, technical, and financial)
- The Arab Common Electricity Market is based on a strong institutional framework with an integrated infrastructure that considers the technical aspects necessary for establishing the market. To achieve the integration of the Arab Common Electricity Market, a legislative framework was developed based on four basic market governance documents: the Memorandum of Understanding, the General Agreement, the Arab Common Electricity Market Agreement, and the operating rules of the Arab networks.
- The World Bank Group and the Arab Fund for Economic and Social Development, in partnership with the General Secretariat of the League of Arab States, organized the first conference on energy trade in the Arab region in Cairo. The conference was attended by a wide range of regional and international ministers and experts. This was a key milestone toward the successful completion of the founding phase of the Arab Common Electricity Market.
- The sixth and final phase of the pilot program for the functions of the Arab Common Market for Electricity and the Regional Pricing Mechanism was completed. It was hosted by the Saudi Electricity Company (the main buyer) in the Kingdom of Saudi Arabia, with the participation of Arab member states through representatives from each country in working groups representing the technical, economic, and regulatory aspects. The program provided training on how to organize and manage electricity trade within the Arab Common Market (Rivadh: October 2022).
- On 2/3/2023, the "Knowledge Sharing" program was launched for the two committees of the Arab Common Market (the Advisory and Regulatory Committee and the Electricity System Operators Committee), in cooperation with the World Bank and the Arab Fund for Economic and Social Development, at the headquarters of the League of Arab States during the period from February 27-28, 2023. This was followed by the 35th meeting of the Steering Committee on 1/3/2023, and the 14th meeting of the Arab Electricity Experts Committee
- On 15/6/2023, the 38th meeting of the Executive Office of the Arab Ministerial Council for Electricity was held at the headquarters of the General Secretariat of the League of Arab States. The meeting recommended holding an extraordinary session of the Arab Ministerial Council for Electricity in September/October to obtain approval for the two agreements for the Arab Common Electricity Market.

### **Arab Electricity Union:**

 The Arab Republic of Egypt is a member of the Arab Electricity Union, which was established in 1987 and aims to develop and advance the electricity sector in the Arab world, including the fields of generation, transmission, distribution, manufacturing, and others. Its membership includes (32) active members from various ministries, agencies, and institutions operating in the electricity sector in Arab countries.

- Egypt actively participated in the Seventh General Conference of the Arab Electricity Union, held in Qatar in March 2022, in several important discussions, including:
- The common Arab electricity market is a necessity for Arab energy integration.
- future plans).

### The Egyptian Electricity Market:

### Cooperation with Japan (regularization of the Egyptian Electricity Holding Company):



- period from December 2018 to June 2023.





- Interconnection of Arab countries and interconnection with foreign countries (existing projects, experiences, and

- Means of controlling the contribution of renewable energies connected to the electricity grid.

• Development in the Egyptian electricity sector is proceeding according to several specific policies, integrated plans and programs, and regulatory laws and legislation. Electricity Law No. 87 of 2015 and its executive regulations were issued with the aim of supporting the structural transformation of the Egyptian electricity market by operating the Egyptian electricity system according to economic and environmental standards that ensure equal opportunities and preserve the interests of electricity producers and consumers.

• To develop the electricity and renewable energy sector, the Egyptian government has taken numerous steps in cooperation with Japan. The Japan International Cooperation Agency (JICA) funded the consulting services provided to the Egyptian Electricity Holding Company (EEHC), provided by TEPSCO (Tokyo Electric Power Services Company). This support ensures the sustainability of EEHC's key role as a leading entity responsible for electricity in the Arab Republic of Egypt, aiming to secure electricity supply and its ability to adjust its conditions in light of the requirements of Electricity Law No. (87) of 2015 and its subsequent amendments.

 The Japanese consultant developed an action plan to implement the consulting services activities, which included four main areas of work: enhancing the capacity of the electricity sector, formulating the company's corporate plan, developing electrical interconnection requirements, and developing human resources. A pilot model was selected from the production companies (Cairo Electricity Production Company - West Cairo Power Plant (Expansion)) and a pilot model from the distribution companies (North Cairo Electricity Distribution Company - Abbasiya Networks Management) to implement the pilot projects. Final progress reports were issued for these pilot projects, including all the important recommendations aimed at developing work within the production and distribution system under the umbrella of the Egyptian Electricity Holding Company.

• The advisory services project provided by the Japanese side contributed significantly to establishing the foundations for strengthening the future institutional plan of the Egyptian Electricity Holding Company and its subsidiaries in the short, medium, and long terms, making Egypt a pivotal hub for electricity trade in the region.

• The Egyptian and Japanese sides agreed on the importance of identifying areas of cooperation in the coming period between the Japan International Cooperation Agency (JICA) and the Egyptian electricity sector, including greater Japanese private sector participation in energy projects in Egypt, particularly in the fields of new and renewable energy, electricity markets, and energy exports to Europe.

• The final report for the project is being finalized in collaboration with the project consultant from TIBSCO and the work team from the Egyptian Electricity Holding Company. The report includes all activities undertaken during the





## Private sector participation in Renewable Energy projects

• As part of the Ministry of Electricity and Renewable Energy's strategy to achieve a 42% contribution from renewable energy to total energy generation by 2035, this is achieved by implementing policies aimed at encouraging the private sector to invest in establishing electricity generation projects from new and renewable energy sources (wind energy, solar energy) through the Egyptian Electricity Transmission Company.

### In this regard, the following was implemented during the fiscal year 2023/2024: **First: Private Sector and Wind Energy Projects:**

N	Power plants name	Investor' name	Capacity (M.W)	Commercial operation date
1	Ras Gharib Wind Energy	Engy - Toyota - Orascom	262	Commercial operation completed 31/10/2019
2	Bakr west wind energy	English Lekela	250	Commercial operation completed 13/11/2021
3	Red Sea wind energy	Engy - Toyota - Orascom	500	306 MW operation completed on 30/11/2024, 194 MW expected in 8/2025
			150	150 MW expected 8/2025
4	Amont (1) Wind Energy	Emirates Al Nuwais	500	Expected 8/2025
5	Suez wind Energy	Aqua power - Hassan Allam	1100	550 MW expected 1/2027 550 MW expected 6/2027
6	Masdar IPH	Masdar	200	Expected 2/2027
7	Amont (2) Wind Energy	Emirates Al Nuwais	500	Expected 9/2028
8	NAIT Project	Siemens and Gamesa	500	Not signed

• In addition, the installed wind capacities currently being implemented by the New and Renewable Energy Authority are as follows:

Ν	Power plants name	Investor' name	Capacity (M.W)
1	Zafarana wind energy		540
2	Gabal el zait wind energy	New & Renewable energy Authority	580
3	KFW Wind energy	. ionicity	252
	Total	1372	

#### Second: Private sector participation in solar energy:

• The solar capacities that were signed are as follows:











Investor' name	Capacity (M.W)	Commercial operation date
Group of investors	1465 M.W	Commercial operation completed
Aqua power	200 M.W	Commercial operation completed 9/7/2024
nirates Al Nuwais	500 MW + 300 MWh	500 MW operation completed on 11/2024 300 MWh Expected 4/2025
mirates Al Nuwais	1000 MW + 600 MWh	300 MW + 300 MWh expected 7/2025 700 MW + 300 MWh expected 4/2026
Scatec	1000 MW + 200 MWh 300 MW+60 MWh	500 MW + 200 MWh expected 3/2026 500 MW expected 9/2026 300 MW + 60 MWh expected 6/2025
asdar, Infinity and Hassan Allam	900 MW+660 MWh	Phase 1 300 MW + 150 MWh expected 9/2025 Phase 2 600 MW + 510 MWh expected 10/2025

#### 5365 MW+1820 MWH

• This is in addition to the capacities of the New and Renewable Energy Authority, which are as follows:

ver plants name	Investor' name	Capacity (M.W)
Kom Ombo		26
Zafarana	New & Renewable energy Authority	50
thermal in Kurimat		140
Total		216
X2		





### **Objectives of Distribution Companies:**

- (1) Distributing and selling electric power to subscribers on medium and low voltages, purchased from the Egyptian Electricity Transmission Co. (EETC) and from electricity production companies on medium voltages, as well as energy purchased from industrial facilities and others in excess of their needs, subject to approval of the Board of Directors of the Holding Company.
- (2) Managing, operating, and maintaining medium and low voltage networks of the Company with full adherence to the instructions of control centers and in consistency with the economical operation requirements.
- (3) Preparing forecast studies on loads and energy for the Company's subscribers and also economic and financial forecast for the Company itself.
- (4) Conducting studies, research, and designs, implementing projects for the supply of electric power for different purposes on medium and low voltages, and carrying out all associated and complementary works.
- (6) Managing, operating, and maintaining isolated generation units which are not connected to the unified grid.
  - Carrying out any other works or activities related to or complementing the
- 6 Company's objectives in addition to any other work that may be entrusted to the Company by EEHC within its competence.
- *Carrying out other works entrusted to the Company by other parties within* its scope of activity that achieve an economic return for the Company.



Electricity	
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D Description	ISCOM	North Cairo	South Cairo	Alex.	Canal	North Delta	South Delta	Beheira	Middle Egypt	Upper Egypt	Total
No. of Subsc (in thousa	ribers nds)	5286	6739	3052	5103	4961	5399	2769	4901	3847	42057
Energy So Subscribers *	ld to ' (GWh)	19218	22925	8819	27525	12481	11576	11854	17703	12559	144660
Purchased Energy	y ** (GWh)	24187	33062	10347	31170	15511	14341	14556	21628	15472	180278
Number of MV Dis	stributors	566	550	292	1812	262	257	337	231	260	4567
Percentage of overa	all total (%)	12.39	12.04	6.39	39.68	5.74	5.63	7.38	5.06	5.69	100
Length of	Lines	100.8	2624	418	16036	10023	7701	17444	23225	11732	89305
MV Network	Cables	28728.6	30681	13239	28582	9842	8752	13119	12641	12333	157917
(km)	Total	28829.4	33305.5	13657.1	44617.9	19864.6	16452.9	30563	35866	24065.2	247221.6
Length of	Lines	3621.1	7637	4744	34435	23992	19493	27039	39989	38859	199809
LV Network	Cables	41329.7	71454	6950	18571	3441	1228	4035	4680	4184	155874
(km)	Total	44950.8	79091.9	11693.9	53006.1	27432.5	20721.1	31074	44669	43043.6	355682.7
Total Lengt Lines & Cable	hs of es (Km)	73780.2	112397	25351	97624	47297	37174	61637	80535	67109	602904.3
Percentag overall tota	je of al (%)	12.24	18.64	4.20	16.19	7.84	6.17	10.22	13.36	11.13	100
Number of Sub (1000) / Total Ler	scribers ngth (Km)	0.07	0.06	0.12	0.05	0.10	0.15	0.04	0.06	0.06	0.07
Sold Energy / Total Length	(GWh) ıs (Km)	0.25	0.20	0.34	0.27	0.26	0.30	0.18	0.21	0.17	0.23
Number of Dist Transform	tribution ers	20978	27552	9738	42413	19625	19875	31586	32281	25476	229524
Sold Energy ( Number of Trans	GWh) / sformers	0.87	0.80	0.88	0.61	0.62	0.57	0.35	0.52	0.46	0.60
Capacity of Dis Transformers	tribution s MVA	18299	21213	6879	19126	6828.3	7279	8670	9111	7661	105067
Percentage of tran number of overal	nsformers' I total (%)	9.1	12.0	4.2	18.5	8.6	8.7	13.8	14.1	11.1	100
Number of LV and pane	/ boxes els	72560	73536	9738	60127	22962	20151	34229	15765	16749	325817
Percentag overall tota	je of al (%)	22.3	22.6	3.0	18.5	7.0	6.2	10.5	4.8	5.1	100

- \*\* Purchased Energy excluding self-generation.





### y Distribution Network Statistics (on 30/6/2024)

\* Sold Energy excluding energy sold to production/distribution companies.







### Statistics of Distribution Companies (on medium and low voltages)

#### (1))Number of Subscribers:



The average growth rate in the number of subscribers is 3.2% annually during the period from 2019/2020 to 2023/2024.





123,204 million kWh.







ription	2022/2023	2023/2024	Growth Rate (%)
d Energy (GWh)	171084	180278	5.4
nergy (GWh)	137737	144660	5.0

The average growth rate of the amount of energy sold was 1.7%, while the average growth rate of the amount of energy purchased was 2.5% annually during the period from 2018/2019 to 2023/2024.

Note: The energy purchased excludes self-generation by electricity companies and amounts to approximately









\* Others: (Youth centers, East Owaynat project, Economic Authority....).

60

(4) Sold Energy (on medium & low voltages) According to Purpose on 30/6/2024:















### (5) Total Capacities of Distribution Transformers:

ription	2022/2023	2023/2024	Growth Rate (%)
s of distribution dium & low voltages VA)	100344	105067	4.7



### Total Lengths of Medium & Low Voltage Lines and Cables:

ription	2022/2023	2023/2024	Growth Rate (%)
verhead lines and cables (1000 km)	240	247	2.9
ow voltage lines & 1000 km)	338	356	5.3





Egyptian Electricity Holding Company



The Holding Company permanently endeavors to improve the level of service offered to citizens to ensure provision of high-quality services in conformity with the international specs and standards through multiple channels, e.g. service centers, the hotline, the unified platform for smart electricity services, and the electronic application.

#### A- Customer Service Centers:

Within the framework of achieving Egypt's Vision 2030 and paying attention to the services provided to citizens, a time plan was drawn up over 5 years to develop all service centers affiliated with electricity distribution companies, which number 465 centers, and the following was taken to achieve quality services:

- · Preparing a service center evaluation guide that seeks to establish specialized evaluation standards for the performance of customer service centers, which contributes to raising the performance rates of electricity distribution companies and customer service centers to competitive levels of creativity, transparency, and knowledge, in order to achieve sustainable development and raise competitiveness.
- Preparing the unified procedural guide for the guality-of-service provision so that internal auditing of service centers can be carried out, quality assurance can be carried out, and continuous improvement methodology can be applied.
- Preparing a guide for public services that explains the planning of the processes taken to conduct the service and the performance indicator for each process, in order to measure the level of performance and achieve customer satisfaction.
- The unified visual identity was applied to 140 service centers out of 465 centers within a five-year development plan.
- Visual identity was applied to electricity kiosks in some distribution companies.
- Implementing a plan to visit service centers at distribution companies to monitor performance levels and review procedures and service requests submitted. 100 service centers and charging centers which follow various distributions companies were visited to monitor efforts to develop the centers, enhance customer satisfaction, provide services and ensure regular charging operations, even on official holidays.
- Starting to operate mobile service vehicles to reach customers in remote areas, as it was implemented in distribution companies: Alexandria - Canal - Middle Egypt - Upper Egypt - Beheira - North Cairo.
- Follow up on the implementation of human capacity development programs specified by the CID Consulting Office in the service centers of distribution companies and ensure the efficiency and effectiveness of training courses to improve employee performance, change undesirable practices, maximize continuous improvement projects, and invest in human resources by training 560 service employees on excellence in customer service at the academy. Arab Science, Technology and Maritime Transport. 17,568 employees in service branches were trained in 14 training programs.



### B- The unified platform for smart electricity services:

- electricity services.

#### **Platform objectives:**

- to go to service centers.
- distribution companies.
- Utilizing business intelligence techniques in the system to extract the performance indicators necessary to monitor and measure services.
- Unifying standards and procedures between all companies and service centers.
- Enabling connectivity with various government agencies and the Digital Egypt platform to facilitate the provision of services to citizens.
- service centers.
- with branches.
- the quality of the service provided

#### **Platform numbers:**

- Number of users (5.8) million users
- Number of requests for all services (6.4) million, including:
- (4.85) million requests to install a code meter. - (175) thousand requests to install a legal meter.

- 4.06 million meters.
- pounds.

### C- Apps. for People of Determination:





· Within the framework of the state's strategic direction towards digitization and interest in the right of the Egyptian citizen to obtain the services provided easily and without difficulty under the umbrella of governance, integrity and transparency, the unified platform for electricity services was launched.

 25 services were activated and launched on the unified platform for electricity services, including (contract data certificate - installing a replacement meter - installing a code meter.....).

• A mobile application was launched for smart services and connectivity with the unified platform for

Citizens obtain all electricity services in a safe and easy way that saves effort and time without the need

Providing a means of remote communication between electricity customers and service centers of

• Providing the ability to follow up on the progress of service requests for citizens without the need to go to

· Providing the payment of all fees and the value of measurements electronically without dealing in cash

 Starting the implementation of the smart zone in some service centers which facilitates citizens to submit service requests electronically in a self-managed manner while maintaining the confidentiality of data and

- (58.9) thousand requests for a contract data certificate.
- The total number of meters installed amounted to about

 The total financial transactions from the beginning of the platform until the fiscal year 2023/2024 reached (14) billion

· Applications have been launched to make electricity services available to people of determination (people with disabilities), being an important asset of the enormous human wealth that the nation enjoys and a key portion of the workforce. The State endeavors to maximize the benefit of those people within the framework of the broader orientation of investing in people.



### Applications goals:

- Further highlighting and maximization of our social responsibility in providing modern technologies that serve a large segment of citizens.
- Providing information on electricity services and how to access them through:
- Sign language for people with hearing impairment.
- Audio recordings for the blind.
- Access to electricity related complaints and inquiries about electricity services through a special app (Wasel) that allows people with speech disorders or hearing disabilities to contact public service entities in the country.

### Providing a package of apps, for people with disabilities includes:

- Service Display App on Windows, connected to 43-inch touch screen, placed in 25 service centers nationwide.
- Android App Introduction to services for the deaf.
- Android App Introduction of services for the blind.
- Android App Customer service operating on tablet at branches to allow communication with people with hearing and speech impairments.

### **D-Emergency Application:**

- An Emergency & Power Failures App was launched and linked to hotline 121 and the unified platform for electricity services. That is meant to realize the State's vision of digital transformation and use of modern technological means in providing services to citizens, diversifying service channels in a manner compatible with all society segments and providing more flexible and convenient means in a secure manner that maintains data confidentiality and privacy.
- The system interacts and communicates through secure communication lines and an integrated system and is followed up through the Digital Monitoring & Operation Center in the Administrative Capital and the sub-centers of DISCOMs.
- Preparing the application to link with the National Emergency & Crisis Network.
- The number of reports reached (8.3) thousand.

#### The application objectives:

- Effective fault management: follow-up on breakdown reports in the electrical network for rapid resolution, which helps achieve a speedy and effective response to citizens' electricity problems and assists in decision-making.
- · Follow-up on citizens' emergency reports: to intervene with providing electricity trucks in high-risk cases in order to ensure the continuity of basic services.

### E- Digital Monitoring & Operation Center:

- The Digital Monitoring & Operation Center of the electricity sector is a modern solution that helps improve the quality of services provided to citizens.
- Through the Center, the state of the systems' infrastructure is tracked by DISCOMs, and breakdowns and problems that can affect provided services are monitored, helping to provide high quality services on an ongoing basis.

### The objectives of the center:

- follow up on the projects of DISCOMs around the clock.
- work on improving the companies' performance in different projects.
- provide high quality services.
- · enhance customer satisfaction and achieve high levels of efficiency and productivity.

### The main components of the center:

#### **Center Features:**

- in decision-making.

### F- Mobile application to provide meter charging services:

#### Communication system for the customer service center on the unified number (121) to receive complaints and reports:

- and mute, and extremely dangerous reports.





• Unified Platform for Services: Follow up on the unified platform for electricity services in distribution companies, the status of the connection lines and server devices responsible for operating the platform services in companies, and service performance indicators.

• Task Coding Project: Follow up the system for coding the tasks of the electrical network in distribution companies and the geographical signature of the network components, as well as the system for mechanizing maintenance work for network tasks.

 Decent Life Project: Follow up on the implementation of the Decent Life Project in villages affiliated with distribution companies and receiving tasks and their tests.

 Unified System for Complaints and Malfunctions: Follow up on citizens' reports and commercial complaints through the unified complaints system 121 and the channels connected to it.

• Monitoring the status of the information infrastructure: Monitoring the status of the information infrastructure that provides electricity services to citizens, by collecting data from various sources and analyzing it comprehensively to detect any problem or malfunction in the systems.

• Effective management of faults: Monitoring reports of faults in the electricity grid to guickly resolve them, which helps achieve a quick and effective response to electricity problems facing citizens and helps

• Emergency services: Monitoring emergency application reports for citizens, to intervene to provide electricity trucks in extremely dangerous cases, in order to ensure the continuity of basic services.

• Connecting to the national grid: The center is equipped to connect to the national electricity grid and cooperate with it in providing services to citizens.

• Security and protection: The center is characterized by high security features, as more protection and security are provided to citizens through the use of encryption and other data protection technologies.

• The project was successfully launched through several applications to charge prepaid meters through mobile devices using the NFC feature, namely: (Sahl - Electricity Khales - MY Fawry) application. The security of this system is being monitored by the General Intelligence and is being announced through the means of communication and media channels of the Ministry of Electricity and Renewable Energy to raise awareness of how to use the NFC feature and its advantages and the ease it provides in charging meters.

· Work is underway to operate the charging service using the NFC feature from the mobile phone via the application of the Unified Platform for Electricity Services (the Egyptian Company for the Manufacture of Smart Meters has already been completed, and work is underway with the rest of the meter companies).

• As of 26/6/2016, a contract was signed with Exceed Company to provide a (Call Center) service to receive reports and complaints by calling the unified number (121). Exceed Company re-contacts customers to ensure the response and resolution of the problem for the reports submitted by them, at a rate of 20% for major technical reports and 100% for commercial reports in each distribution company.

• From the date of the contract until 7/8/2024, the number of calls received was approximately (21.76 million calls) and the average response to technical reports was 99.9% and commercial reports 99.8%. Multiple channels have been provided to receive complaints and malfunctions and have been linked to the system (the unified platform - Wasel application (for the deaf and mute) - the emergency application - power restoration shifts). Priority is given to working on reports received from people with special needs, deaf



### **Electronic Collection:**

The Ministry of Electricity and Renewable Energy, represented by the Egyptian Electricity Holding Company, signed a cooperation protocol with major entities in the field of electronic payment for any financial dues, and these entities are represented by) Bangue Misr, National Bank, Fawry Dahab Company for Electronic Services, Qatar National Bank QNB) to supply the latest electronic payment machines POS:

- Operating them in service centers to implement payment operations for any dues for services.
- With collectors responsible for collecting electricity bills to collect bills from citizens electronically.
- The possibility of charging prepaid meter cards by collectors while passing by to collect bills.
- The system provides the necessary reports to follow up on collection and charging operations and pay any dues to distribution companies instantly as soon as they occur.
- The system allows not to print paper bills and reduces expenses represented by pre-prepared printing papers and inks used in printing and save time and effort.

### **Digital Transformation:**

Within the framework of the electricity sector's efforts represented by the Egyptian Electricity Holding Company and its subsidiaries to be an effective part of the digital transformation system and in cooperation with the Administrative Control Authority and the Ministry of Communications and Information Technology to implement the project of unifying subscriber databases and linking subscribers spatially on regional and daily maps.

- The connection works have been completed in (15) governorates (Port Said Suez Ismailia South Sinai - Luxor - Aswan - Beni Suef - Minya - Assiut - Fayoum - New Valley - Qena - Sohag - Red Sea - Alexandria) with a total number of about 10.8 million subscribers.
- The connection works are underway in (11) governorates (10th and New Cities Cairo Giza Damietta -Kafr El Sheikh - Dakahlia - Qalyubia - Menoufia - Gharbia - Beheira - Marsa Matrouh) with a total number of 26.8 million subscribers and the connection of 19.1 million subscribers has been completed.
- Thus, the total number of subscribers whose spatial connection has been completed is 29.9 million subscribers.
- The national real estate number is printed on bills and consumption payment receipts for deferred payment subscribers, and coordination is underway with CYshield Company and electronic payment companies to print the national real estate number on prepaid recharge receipts.

### **Preparing to move to the Administrative Capital:**

- The digital transformation unit was formed through interviews with the Ministry of Communications and received the necessary training for each job title.
- · Completing the digitization of documents and papers for all sectors of the Egyptian Electricity Holding Company as a first and second phase and transferring the data to the data center in the military entity in preparation for uploading it on open Text.
- Completing the study and analysis of the offers received from the Egyptian Telecommunications Company (we) for LP Telephone and conducting an inventory of the needs of the Egyptian Electricity Holding Company. The contract with the Egyptian company was completed and the telephones were operated in the capital.
- Introducing internet service to the complex building in the administrative capital at a speed of 100 Mb/s.

- collaborative program for human resources.

### Smart meters:

- of electricity distribution companies.
- Middle Eqypt) for electricity distribution.
- exchange center were established.
- 189 thousand meters.



- and transformers:
- · The objectives of implementing the project are:
- and transformers.





 Conducting an inventory of electronic signatures for employees who are not transferred to the administrative capital for distribution companies in preparation for issuing electronic signature certificates.

 Training on collaborative programs has been completed and coordination is underway to activate the content management program and the correspondence program. The fingerprint of the workers in the capital has been raised in preparation for activating the attendance and departure program through the

Total number of (G-cloud) devices: 934, 600 devices have been received.

Total number of (P-cloud) devices: 364, 192 devices have been received.

#### 1. Pilot project for supplying, installing and operating smart meters:

• March 2016, a cooperation protocol was signed between the Egyptian Electricity Holding Company and the National Defense Council to support securing and developing information systems and creating databases in the fields of smart meters and their applications, in order to ensure the confidentiality of information and data

• May 2017, a contract was signed to supply, install, operate and maintain advanced measurement systems for the infrastructure with a turnkey system to supply, install and operate (213 thousand) smart meters as a pilot project within the scope of six companies (North Cairo - South Cairo - Alexandria - Canal - South Delta

• Data centers were established and operated in 6 distribution companies and the main data center and

About 213 thousand meters were installed and operated, and invoices were issued from the system for about

The initial handing over of the project was completed by all distribution companies.



**Installed Smart-meters Data Center Operation Room** 2. Project to install 270 thousand smart meters for large subscribers on medium voltage, distributors

- Accurately measuring the loss between the transmission company and distributors and between distributors

- Accurately measuring the purchased energy without the need for human workers.

- Monitoring the loads of distributors, transformers and cables remotely and without the need for human workers.

- Monitoring the efforts and power factor in order to take the necessary measures to improve them.

- Accurately determining the maximum load for each distribution company.

- Accurately determining the needs of distribution companies in the investment plan.





#### Executive position:

- The meters of large subscribers on medium voltage, distributors and public and private transformers were limited, amounting to about 270 thousand meters.
- Technically accepted companies were invited in the general tender No. (2/2021/2022) to supply and install 270 thousand meters in distributors, kiosks and major subscribers throughout the Republic after fulfilling the cybersecurity requirements.
- The technical and financial analysis of the tender was completed and awarded to the Egyptian Company for the Manufacture of Smart Meters, the lowest priced in meters.
- A contract was signed with the Egyptian Company for Smart Meters; an award order was issued and the advance payment was paid on 2/9/2024.
- Coordination was made with the General Intelligence Service to supply the Unified HES in order to secure the data and ensure its confidentiality. Negotiations and awarding were completed.
- Implementation is expected to be completed within a year.

### **Pre-Paid Meters**:

The expansion in the use of this type of meters began in 2011 and was generalized in 2014, where approximately 19 million meters were installed until 30/11/2024. Pre-paid meters aim to:

- Achieve financial liquidity for electricity companies resulting from prepayment of charging value.
- · Avoid problems with some consumers such as estimating the amount of consumption and the high value of some bills, as well as ensuring security to subscribers where no need for any person to enter a subscriber's home.
- During 2023/2024, 2.4 million meters were installed, and it is targeted to complete installing 2.5 million meters during 2024/2025.

### Establishing and developing distribution companies' control centers:

- The Ministry of Electricity and Renewable Energy, represented by the Egyptian Electricity Holding Company. is developing networks in distribution companies to raise the level of performance and improve the quality of electrical supply. A plan has been developed to establish and develop a number of control centers in electricity distribution networks in several stages, geographically distributed throughout the Republic, which will monitor the electricity distribution network and improve its performance. It will be able to meet the needs of population growth in the country in addition to the requirements of industrial development, the benefits of which include the following:
- Optimally operating tasks and equipment.
- Reducing the cost of operation and maintenance in distribution networks.
- Reducing the loss rate.
- Increasing the reliability of networks and the guality of electrical supply.
- A plan was prepared for implementation by distribution companies in stages as follows:
- The implementation of the control centers in the first phase has been completed with a total of (5) centers as follows: (4) control centers implemented by Schneider Electric in North and South Cairo companies, which are the controls (Nasr City - New Cairo - Dokki - 6th of October) in addition to the East Alexandria control center implemented by General Electric.





- systems.

### Project to improve energy efficiency in distribution networks (JICA):

- where the following was done:

#### The second package (LOT2) for the benefit of North Cairo Electricity Distribution Company:

#### The first package (LOT1) for the benefit of Alexandria Electricity Distribution Company:

## **Electricity Distribution:**

and completion of implementation in June 2026.

#### Meter Security System:

#### Unified program for meter charging:

#### Specifications:

Egyptian Electricity Holding Company.





- The procedures for the second phase are being completed by Schneider for (3) control centers, which are (Sharm El Sheikh Control - Minya Control - South Delta Control).

- The third phase will begin for (8) control centers after the completion of the second phase in addition to providing funding and the readiness of the electrical network.

- Emphasis was placed on using the latest developments in control, monitoring and communications

• On 29/2/2016, a loan agreement was signed, funded by the Japan International Cooperation Agency (JICA), in the amount of 24.762 billion Japanese ven, to implement a project to establish an integrated smart network in three distribution companies with the aim of reducing the loss of electrical energy, reducing thermal emissions and the percentage of carbon dioxide in the atmosphere, and improving and raising the efficiency of the electrical network's performance.

• In June 2016, the consultant contract was signed with TEPSCO, and the loan was activated on 10/1/2017,

• On 30/11/2020, the implementation contract was signed between North Cairo Electricity Distribution Company and the alliance of (Toyota - El Sewedy) companies, the project contractor, to implement the Helmeya Control Center and install 490,000 smart meters in the testing phase for the control systems and smart meters in the control center, and the implementation is expected to be completed in May 2025.

• On 8/9/2022, the contract was signed with the German company Siemens, the project contractor, to implement the Ashrafy - West Alexandria control centers and install 300,000 smart meters in addition to a two-year warranty and the completion of implementation in November 2025.

#### The third package (LOT3) for the benefit of North Cairo Electricity Distribution Company Delta

• On 8/12/2022, the contract was signed with the German company Siemens, the project contractor, to implement the Damietta Control Center and install 175,000 smart meters in addition to a two-year warranty

 The meter security system has been implemented in all distribution companies and the DR (Disaster Recovery) emergency exchange system is being activated at North Cairo Electricity Distribution Company.

 A contract was signed with the General Intelligence Service to implement a unified program for meter charging, and it has been operated in the nine distribution companies and the connection work is being completed to operate the operation center at the Egyptian Electricity Holding Company.

• Unified specifications were prepared for the tasks of the distribution companies for 133 unified specifications and coding them according to the Egyptian unified specifications and placing them on the website of the





### Ultra-High Voltage Research Center:

- Achieving revenues that cover all expenses with a profit margin for the fiscal year 2023/2024, where revenues of 21 million Equptian pounds were achieved.
- There are multiple sources of alternating voltage (50 Hz/s) up to (2250) kV, sources of impulse voltage with lightning pulse (1.2/50 microseconds) up to (2400) kV, sources of direct voltage up to (100) kV, and sources of alternating current up to (5000) amperes. The sector has a mobile laboratory for cable tests with alternating voltage (20 - 300) Hz/s, for voltages up to (500) kV, and a mobile laboratory for testing gas-insulated missions (GIS) up to 800 kV.
- The document cycle for the entry and exit of all samples in the sector is applied according to the regulations governing the work in the laboratories, research and testing sector, which were approved by the Board of Directors of the Egyptian Electricity Holding Company.
- · Governance of work procedures in the laboratories, research and testing sector to be neutral and transparent in dealing with the sector's clients.
- The sector passed the third periodic follow-up visit by the evaluation team from the National Accreditation Council (EGAC) according to the international standard ISO/IEC17025:2017, where the accreditation certificate of the Ultra High Voltage Research Center was renewed as a conformity assessment body (Conformity Assessment Body) in some tests conducted on 66 kV cables by the National Accreditation Council (EGAC), and the procedures for issuing the new certificate are being implemented, which increases customer confidence and increases demand for conducting tests.
- The center obtained the Technical Proficiency Certificate (PT) from the Egyptian Organization for Standardization and Quality for (11) tests of low voltage cables and medium voltage cables from the National Institute for Standardization in preparation for accreditation by the National Accreditation Council (EGAC).
- The center obtained the Quality Management Systems Certificate according to the requirements of the international standard ISO/IEC 9001/2015.
- The center obtained the Environmental Management Systems Certificate according to the requirements of the international standard ISO/IEC 14001.
- The Extra High Voltage Research Center obtained calibration certificates for devices and equipment used in conducting tests.
- · Implementing a device to conduct mechanical shock (Impact Test) on the protective coating material for structural towers (tension - suspension - crossing) for medium voltage networks up to (22) kV. According to the standard specifications of the Egyptian Electricity Holding Company
- Implementing a device to conduct shock testing on cable sheathing at a low temperature (-15°C) with different weights according to the sample diameter according to the international standard (IEC 60811-506).
- · Preparing its equipment to conduct stress-strain curves testing for insulated aerial conductors with a voltage of (0.6/1) kV according to the international standard specification (IEC 61089) as well as using it to conduct tensile testing on low-voltage tensile clamps according to the French standard (NFC 33 - 041).
- Preparing a device for testing mechanical shock for prefabricated bars according to the international standard specifications (IEC 61439-6).
- Adding a device for testing accuracy for current transformers (all voltages) according to the international standard specification IEC 61869-2 to ensure the accuracy of the measurement of current transformers before using them to avoid any errors related to measurement and prevention.
- A technical committee was formed to determine the costs of new mission tests and tests that were added to the list of tests.
- The new price list was approved by the Board of Directors of the Egyptian Electricity Holding Company on 1/3/2024.
- Starting to prepare an integrated system through which technical reports are prepared that are issued with the results of the tests.
- The sale of car lots, wooden and iron reels has been completed and their revenues have been included in the revenues of the Ultra High Voltage Research Center.

- A committee has been formed to complete the sale of wooden reels and cable remnants at the center and is in the process of completing their inclusion as revenues for the center.
- The sale of 13 cable lots (copper aluminum) of various sectors has been completed and they are being entered as revenues for the center.



## scope of distribution companies

- until September 2024
- Distribution companies.
- In Tariff) system.
- (Net Metering) system.
- 7 solar power stations were implemented with a total capacity of 24 megawatts isolated from the grid. Project to spread the use of solar energy on the roofs of buildings within the scope of the Decent Life Project:

# Schools:

• Inspections were conducted for the schools included in the project and solar power stations can be installed for 439 schools out of a total of 3284 schools, with a total capacity of 3624 kW.

#### **Government buildings:**

- 627 government buildings were inspected.
- Solar power stations can be installed for 17 buildings (from the new buildings with a meter installed in them from 58 government buildings) with a total capacity of 98 K.Watt.

#### **Markets/Parking:**

- 15 facilities were inspected, and a solar power station can be installed for 1 facility with a capacity of 59 KW. Inspections were conducted on 7 hospitals proposed by the Ministry of Health, and a preliminary feasibility study was conducted to establish solar power stations on the roofs of 6 hospitals with a total capacity of 515 KW.
- An inspection was conducted on the buildings of the Ultra High Voltage Research Center in the presence of representatives of (Egyptian Electricity Holding Company, South Cairo Electricity Distribution Company) to study the establishment and implementation of (5) solar power stations on the roofs of the buildings of the Ultra High Voltage Research Center with a total capacity of approximately 250 KW.

### **Solar Energy Platform:**

the solar station).





Rationalizing and Improving Energy Efficiency and use of Renewables:

- Encouraging the spread of renewable energy (solar energy up to 30 MW) within the
- The total number of solar stations implemented reached 2087 stations with a total capacity of 212.44 MW
- 174 stations were implemented with a total capacity of about 9.33 MW in the highest buildings of the
- 59 stations were implemented with a total capacity of about 32.86 megawatts by subscribers to the (Feed
- 1847 stations were implemented with a total capacity of about 146.251 megawatts by subscribers to the

- On 3/3/2024, the Solar Energy Platform https://pv-hub.org was launched to provide services to citizens and raise awareness of how to implement a solar power station and connect the solar station to the grid, choose the company implementing the solar station, and submit and follow up on a complaint from (citizen/ implementing companies) to facilitate citizens and implementing companies and encourage them to install solar power stations and save time and facilitate communication between the relevant authorities, which specialize in the following: Citizen services (how to calculate the capacity of a solar power station / choose the company implementing





- Service for companies implementing solar power stations (request for gualification / renewal of gualification). and service for connecting a solar power station (submitting a technical file / submitting a request for inspection / inquiry and follow-up of a service).
- · Service for submitting and following up on a citizen/ company/ electricity distribution company complaint.

#### Energy production from solid waste:

 A contract for purchasing energy and connecting it to the electrical grid for a station for converting municipal solid waste into electrical energy within the scope of the South Cairo Electricity Distribution Company with a capacity of 30 MW was signed.

#### Encouraging the improvement of energy consumption efficiency in the industrial, commercial and governmental sectors:

- 694 studies were implemented in the industrial, commercial and governmental sectors in all governorates of the Republic.
- Energy rationalization guides were prepared for various sectors (hospitals government buildings) in cooperation with the Ministry of Electricity and Renewable Energy, the Egyptian German Committee for Renewable Energy (GIZ) and the Egyptian Electricity Holding Company, where (142) trainees from various ministries were trained on the concept of energy rationalization and how to collect and analyze data.

#### Raising awareness of the importance of rationalizing the use of electrical energy:

- On 17/9/2024, a new initiative was launched at the level of the Arab Republic of Egypt, which is the President's Initiative for Human Development "New Beginning Initiative for Building the Human Being" for a period of 100 days to encourage raising awareness of the importance of rationalizing energy and improving the efficiency of its use in all governorates of the Republic.
- 152 awareness seminars were held with the attendance of (5358) trainees between employees of government agencies and university and school students.
- A program was developed to improve energy efficiency and identify opportunities for rationalizing energy in Sharm El-Sheikh International Hospital affiliated to the General Authority for Health Care to be the nucleus of the project to transform health hospitals into environmentally friendly hospitals.

#### **Electric cars:**

• Electricity was connected to (211) electric chargers for (97) charging stations currently in operation.

### Project to convert overhead lines to underground cables:

- Within the framework of the directives of the President of the Republic to eliminate slums, on 23/11/2016, a cooperation protocol was signed between the Informal Settlements Development Fund and the Ministry of Electricity and Renewable Energy regarding the development of unsafe slums located within the boundaries of electricity lines.
- As of October 2017, the implementation of the first phase of the project began for seven consecutive phases within the scope of electricity distribution companies, where the total number of cables implemented by the end of the seventh phase during the fiscal year 2023/2024 amounted to about 1975.95 km, in addition to the tasks of connecting these cables at a total cost of about 2283.89 million pounds, financed by the state treasury.
- Within the framework of coordination with the National Investment Bank and the Ministry of Planning, a plan was prepared to complete the implementation of the project within the scope of distribution companies, where an amount of 300 million pounds was approved to complete the implementation of the targeted operations within the scope of distribution companies for the eighth phase during the fiscal year 2024/2025.

For more information, please visit the website: http://www.eehc.gov.eg

Information about Dis.Cos							
DISCOM	Geographical Zone	Headquarter	Equity Capital (m. EGP)	Percentage of Capital to EEHC Investments (%)	Address	Phone and Website	
North Cairo	North & East Districts of Greater Cairo, New Cairo, El-Salam and El-Obour Cities in Cairo Governorate; and Khanka, Shoubra El-kheima. El-Qanater & Bahteem in Qalyoubeya Governorate	Cairo Governorate	796.835	1.94 %	2 El-Nasr Road, Next to Nasr City Police Station I, Cairo	02/22725095 02/22724409 www.ncedc.gov.eg	
South Cairo	West & South Districts in Cairo Governorate; and all districts of Giza Governorate	Cairo Governorate	694.526	1.69 %	53, 26 <sup><u>th</u> July St., Cairo</sup>	02/25766400 www.scedc.gov.eg	
Alex.	From Abu-Qir westwards to K. 66 Alex/Matrouh Road	Alexandria Governorate	377.008	0.92 %	9, Sedi El- Metwally St., Attareen, Alex.	03/3911967 03/4948107 ww.aedc.gov.eg	
Canal	Governorates of Ismailiya, Port Said, Suez, Sharqeya, North Sinai, South Sinai and the Red Sea & new cities within the Company's geographical zone	Ismailiya Governorate	1455.419	3.54 %	Osman Ahmed Osman Square, Sheikh Zayed, Ismailiya	064/3209600 064/3232130 www.cced.gov.eg	
North Delta	Governorates of Daqahleya, Damietta and Kafr El-Sheikh	Daqahleya Governorate	486.694	1.19 %	Gomhoreya St., Opposite Governorate Building, Daqahleya	050/2304186 050/2304187 www.ndedco.org	
South Delta	Governorates of Qalyoubeya (Except Greater Cairo extension), Menoufeya (Except Sadat City and its affiliated villages & El- Khatatba Center) and Gharbeya	Gharbeya Governorate	457.214	1.10 %	Kafr El-Sheikh Road, Tanta, Gharbeya	040/3455516 040/3455519 www.sdedc.net	
Beheira	Governorates of Beheira, Matrouh and beyond K. 66 Alex/Matrouh Road; Sadat City and its affiliated villages & Khatatba Center in Menoufeya Governorate	Beheira Governorate	600.000	1.46 %	Gomhoreya St. Damnhour, Beheira	045/322159 www.bedc.gov.eg	
Middle Egypt	Governorates of Beni-Suif, Fayoum, Minia, Assiut and the New Valley	Minia Governorate	1018.217	2.48 %	78, Horreya St. Minia	086/2346733 086/2353527 www.meedco.gov.eg	
Upper Egypt	Governorates of Sohag, Qena, Aswan and Luxor	Aswan Governorate	484.547	1.18 %	High Dam, West Aswan	097/3480316 097/3480317 www.ueedc.com	







Egyptian Electricity Holding Company (EEHC)

# Human Resources and Training

The Egyptian Electricity Holding Company is keen to keep pace with the latest global changes and trends. Because of the company's leadership's belief in the importance of the human resource and its ability to contribute positively to achieving goals and advancing the production process, the capabilities of human resources are constantly being developed and developed and their ability to deal with technological development and its innovations is constantly being raised.



### Workforce



The total number of staff of EEHC and its affiliates amounted to 133055 employees on 30/6/2024 compared to 138421 employees on 30/6/2023, at a decrease rate of 3.9%, as demonstrated below:

Egyptian Electricity Holding Company (EEHC) Total: 2280 employees							
Production Total: 2630 • Cairo 3840 • Middle Delta 5417 • Upper Egypt 3245	a Companies 6 employees • East Delta 5400 • West Delta 5990 • Hydro Power 2414		Distributio Total: 7961 • North Cairo 10359 • Alexandria 8924 • North Delta 6497	n Companies I7 employees • South Cairo 14219 • Canal 12100 • South Delta 7254			
			• Beheira 6524 • Upper Egypt 6078	Middle Egypt 7662			
Egyptian Electricity T	Egyptian Electricity Transmission Company Medical Services Company						
Total: 2337	0 employees		Total: 148	2 employees			

### **Development of the total number of employees** in the holding company and its affiliates



### **Development of Human Resources and Performance Improvement**

Believing in the company's leadership in the change that can be brought about by human resources as they are the most important element of the production process, which necessitates us to change our policy and strategies to enable us to face the challenges to ensure continuity, and based on that, the following has been done:

- integrate with the company's strategic plan.

- of the Electricity subsidiaries.
- competencies.



 Transforming from traditional human resources management to strategic management of human resources, which is one of the axes of the human resources planning process at the level of all jobs in the holding company and its subsidiaries and determining the needs required of the workforce in quality and number through the integrated system of human resources, which aims to attract efficient elements to achieve the strategy, mission and vision of the holding company and its subsidiaries.

• Implementing the policy of replacement and succession and improving the recruitment process for leadership positions and the effective development of potential successors in light of the objectives of the Egyptian Electricity Holding Company and its subsidiaries.

• The company has completed and implemented the main axes of the strategy for the development and development of human resources, which are prepared to improve the level of performance and achieve the company's objectives efficiently and effectively, which is focused on spreading and establishing a management culture based on good performance and accountability, creating a more diverse workforce, developing and simplifying work procedures, and developing a human resources management plan to

 Providing technical support to companies by completing their data through the integrated system for human resources and periodic review to verify the accuracy of data and coordination with the Information and Communication Systems and Technology Sector for implementation and conformity with the human resources database at the Ministry of Electricity and Renewable Energy.

• Completion of the application (DASH BORD), through which the salaries and wages of employees are reviewed in all their details, after the completion of the follow-up of companies to raise wages on the system, which enables managers to take appropriate decisions.

• A time plan has been prepared to generalize the implementation of the (mobile phone) applications of the integrated system of human resources, which contains many services for employees, for example, but not limited to (enabling employees to view and update their basic and functional data to reach a high degree of data accuracy and access to their financial dues - Automating employee complaints requests and sending them to human resources through the application - providing vacations of all kinds, ...) and has already begun to activate and apply them in five subsidiaries and the activation is being followed up with the rest

 Completion of the JOB PROFILE review of (20) jobs from the holding company and its subsidiaries, in preparation for generalizing the job file to similar jobs in the subsidiaries to reach the number of jobs that will be unified job file, which is (121) jobs that carry the same job file and determine the behavioral competencies required for those jobs, on the basis of which the promising elements nominated for jobs (SUCCESSORS) To measure the extent to which they meet these competencies and develop development plans for candidates, as it includes the most prominent proposed means to address those gaps in behavioral

• Enhancing teamwork, raising the degree of employee satisfaction and improving their productivity through the development of the internal system and policies that govern the work system.



Egyptian Electricity Holding Company



### **Medical Care**

The Egyptian Electricity Holding Company is keen to develop and improve the provision of health care to workers through:

- Establishment of a medical services company to provide comprehensive health care excellence as detailed later.
- Preparing the strategy of the medical sector in the Egyptian Electricity Holding Company, which is based on the following:
- Upgrading the level of primary medical care services preventively, curative, and educational, and expanding the provision of integrated services, where many preventive measures have been taken, for example:
- Preparing a complete database Employees database, their ages, the diseases they suffer from, the job and its risks, and on the basis of which a comprehensive examination plan is prepared for workers, where periodic examination was done for about 483 workers and early detection of (4) four cases of cancerous tumors.
- Activating the role of doctors by passing through work sites to ensure the implementation of occupational safety and health standards in order to ensure the health of workers.
- Implementation of medical education programs and raising health culture among employees through lectures and training courses.
- Health awareness of workers, dissemination of health concepts and the consolidation of proper health behavior.
- Developing outpatient clinics, therapeutic and urgent services, and developing the health service provided to patients, whether employees of the Egyptian Electricity Holding Company, the Ministry's General Office, employees of the Egyptian Electricity Transmission Company, as well as those referred for pensions.
- Specialized clinics have been established in conjunction with contracted parties to provide a distinguished and integrated medical service to the employees of the Egyptian Electricity Holding Company, the Egyptian Electricity Transmission Company and the Ministry's General Office transferred to the Administrative Capital.
- An integrated information system has been established for the medical sector that helps to provide medical services of the highest quality while maintaining economic operation, as the claims of contracted hospitals and pharmacies have been automated to speed up the completion of work and reduce the effort exerted and the preparation of an automated reservation system through the medical system to prevent overcrowding of employees.
- The automation of the medical system is being completed, through which all medical services are provided to workers at the headquarters of the Egyptian Electricity Holding Company in the Administrative Capital and raising the efficiency of workers through practical training to use modern systems for that.
- Preparing a specialized team to provide comprehensive, high-quality and efficient health care for employees.
- The establishment of an integrated medical center in AI-Sawah building equipped with the latest medical equipment to provide a distinguished and integrated medical service to the employees consisting of eight specialized clinics, a laboratory for medical analysis, radiology units and a center for physiotherapy, and the medical center was linked to the training center of North Cairo stations in Al-Sawah specialized clinics equipped at the ministry's headquarters in the Administrative Capital.
- A well-equipped first aid clinic has been operated in the Administrative Capital, as well as an ambulance equipped with the latest equipment.
- · The implementation of many procedures has been completed to facilitate pensioners, as it was contracted with analysis laboratories to take samples for the disease at the residence to of renew the decision of the Commission as well as the delivery of home treatment to homes without the Egyptian Electricity Holding Company bearing an additional cost.

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- to study and work to resolve them.



The strategic objective of training is to contribute to the success and continuity of the company by developing an appropriate training strategy that maintains a high level of skills and competitiveness of employees, outstanding performance and continuous improvement, this was during the fiscal year 2023/2024:

### A - Training of employees:

Technical, administrative, leadership and specialized training programs, seminars and workshops have been implemented for employees of the Egyptian Electricity Holding Company, affiliates and the General Office of the Ministry of Electricity through (various training centers) in the Egyptian Electricity Holding Company and its subsidiaries and external training centers as follows:

Trainee 180000			
160000			
140000			
120000			
100000			
80000			
60000		49846	
40000			
20000			
0			
	2	019/20	20

### B- Training of Others in Support For the social responsibility of the holding company:

### **C** - Postgraduate Studies:





Establishing an internal unit for the complaints of employees of the Egyptian Electricity Holding Company

• Re-evaluation of medical contracts, where all contracts with hospitals, centers and pharmacies were reviewed, and negotiations were made to obtain the best conditions for the contract, and new hospitals were contracted to provide distinguished service to employees.

## **Training & abilities Building**

### **Development in Total Number of trainees**



· A summer training program was conducted by EEHC and affiliates for (8716) students of faculties of engineering, high institutes, faculties of commerce, and high industrial education.

• With regard to co-education industrial classes under the agreement concluded with the Ministry of Education, the number of graduates reached (166), and (136) enrolled students during the year 2023/2024.

• Out of the keenness of EEHC and affiliates on continuous development through scientific research and postgraduate studies in the various fields (engineering, medical, financial, and administrative), a number of (15) employees of EEHC were enrolled in postgraduate studies for the year 2023/2024.





### **D** - Trainees from Inside and Outside the Electricity Sector in Equpt:

The training sector of the Egyptian Electricity Holding Company trained (841) trainees from the subsidiaries on specialized technical courses and seminars that were limited to the training needs of the companies as follows:

- (420) trainees from affiliated were trained with (17) training courses.
- (16) seminars and workshops were held for (421) participants from affiliated and external companies.

### E-Marketing the training capabilities for trainees from outside the Arab **Republic of Eqypt:**

Within the framework of the strategy pursued by the Egyptian Electricity Holding Company to maximize aspects of cooperation with Arab and African countries in the field of training and capacity building, the following has been done.

Implementation of distinguished training courses for 384 trainees of Arab cadres through direct cooperation or through cooperation with international donors Agencies, as shown in the following table:

Contracting Party	Number of Courses	Number of Trainees	Country of Participant
The Ministry of Electricity&Renewable energy	6	66	African Countries
The Ministry of Electricity&Renewable energy	1	6	Yemen
Libyan Iron and Steel Company (ECCO)	2	9	Libya
African Power Utilities Association (APUA/ANCEE)	18	214	African Countries
Japanese International Cooperation Agency (JICA)	1	12	Iraq
Cooperation with the Egyptian Agency of Partnership for Development (EAPD)	1	18	African Countries
Rural Electrification Authority (REA)	3	46	Tanzania
Egyptian African Consultative Group for Integrated Development Investments	1	13	Chad



Based on the keenness on early detection of qualified elements for leadership and preparation for the second row, the Leadership Development Center was established in 1995 to achieve a mission represented in "preparing a new generation of leaders capable through its knowledge, behaviors and experiences to achieve the mission of the sector" The achievements of the center for the fiscal year 2023/2024 were as follows:

- program.
- issued by the National Anti-Corruption Committee.
- North Cairo Electricity Distribution Company).



### **Development of Regulations & Organization Structures of EEHC & Affiliates**

To keep abreast of all developments in the work system, some existing regulations and procedures have been issued and amended in order to create a stimulating work environment, for example: The General Administration of Taxes in the Financial Affairs Sector was established with the aim of institutional development and in order to improve and follow up the tax position of the Egyptian Electricity Holding Company and keep pace with the development in the fields of tax procedures and modern technology.





### Leadership Development Center of the Electricity Sector

• Preparing and qualifying a second row of leaders capable of keeping pace with the challenges and ambitions of the electricity sector, where two batches, 36 and 37 were graduated from the leadership preparation

ISO 9001/2015 certificate was awarded by the British company SGS for three years on 11/2023.

 Holding courses on "Disseminating the procedures of the values of integrity and transparency and raising awareness of the risks of corruption and ways to prevent it" in implementation of the recommendations

· Consulting services were carried out to qualify the training sector of Alexandria Electricity Distribution Company to obtain the ISO 9001/2015 certificate for the first time.

• In addition to continuing to provide consulting services for the renewal of the ISO 9001/2015 certificate for the training centers of (Upper Egypt Electricity Distribution Company, Middle Egypt Electricity Distribution Company, South Delta Electricity Distribution Company, Al-Kurimat Training Center of the Upper Egypt Company for Electricity Production, Hydroelectric Power Plants Company (HPPC) for Electricity Production, Water Stations Company for Electricity Production, First and Fifth Settlement Customer Service Center at

During the fiscal year 2023/2024, the total revenues of the center reached about 8.6 million pounds.



### Egyptian Electricity Holding Company

- The Board of Directors of the Egyptian Electricity Holding Company has approved and adopted the amendment of Article No. (37) of the Training Regulations of the Holding Company and its subsidiaries, which is related to the trainee, scholarship recipient or scholarship holder obtaining a special leave without pay in order to make the best use of the desired results from training employees and maximize the return on investment from training.
- The preparation of the executive rules of the unified contracts and procurement regulations has been completed, and the necessary arrangements are being made to review, approve and adopt them to work with them.
- The amendment of the unified regulations for medical treatment of the Egyptian Electricity Holding Company and its subsidiaries has been completed in order to keep pace with the economic and medical variables and to alleviate the burden on employees, pensions and their families, and procedures are underway for approval and adoption by the Board of Directors of the Egyptian Electricity Holding Company.
- In order to activate the unified housing regulations of the Egyptian Electricity Holding Company and its subsidiaries, and in accordance with the provisions of Presidential Decree No. 351 of 2021 regulating the conditions and rules for the use of civil servants in the state in housing attached to government facilities and facilities, and its amendments, the unified administrative housing system was designed, implemented and started to activate the unified administrative housing system at the level of the Egyptian Electricity Holding Company and its subsidiaries, including the surveying of the residential colonies of the subsidiaries, engineering drawings for residential and commercial units, pictures showing the current situation and decisions Allocation or contracts for the purchase of land on which the colonies are built.
- Activating the work in many committees to verify the extent of compliance with the application of the governing regulations The Supreme Committee for Judicial police Work, headed by the Legal Counsel, reviewed the work of the judicial police in some distribution companies and the sudden inspection of the application of controls through review since the start of editing the record until reconciliation, which had an impact on the development of work mechanisms related to Judicial police work and activate it.
- Structuring the general departments of judicial police in distribution companies, evaluating their effectiveness in accomplishing the role entrusted to them, and evaluating the work of judicial officers in distribution companies, which resulted in increasing the percentages of receipts from judicial police reports and reducing the percentage of loss.
- · Work on publishing the regulations on the website of the Egyptian Electricity Holding Company and its subsidiaries and updating them periodically.

## **Continuous Improvement according** to High Quality Standards through Qualified Cadres

- Forming the Higher Committee for Legal Departments, which contributed to preparing and raising the efficiency of the legal cadres of EEHC and subsidiaries and led to developing their performance in line with the strategies targeted to be achieved.
- · Activating the role of the General Administration of Legislative Support, Legal Studies and Research in studying a number of fatwas and complaints, as well as draft laws and executive regulations, especially those related to the electricity sector, as well as studying the observations of regulatory bodies and investigation bodies and working to correct the vision of these authorities, which had a positive impact on the Egyptian Electricity Holding Company and its subsidiaries and protecting their interests.
- Activating a project to determine the knowledge, skills, and behaviors (KSB) that must be attained during the career path for each job category according to the different levels and fields of work.
- A plan has been prepared to qualify technical and administrative cadres for leadership positions, which contributes to supporting current leaders in various locations, in addition to qualifying a second row of

- and work on the sustainability of performance.

# topics as follows:

- the company's General Assembly.

#### Audit Committees in Affiliated Companies:

2023/2024 are the following:

- role assigned to it.
- process compared to the approved plan.
- the recurring ones.





leaders capable of assuming responsibility in order to achieve the company's vision and keep pace with the sustainable development strategy of the country 2030 by acquiring knowledge and administrative and leadership skills to deal with the developments of modern technology.

 Establishing an integrated system for the medical sector and linking it to the company's integrated information system, which helps to provide medical service of the highest quality while maintaining economic operation. · Evaluation and continuous improvement of occupational safety and health procedures to avoid work injuries

 Managing the African foreign relations file in the field of human resources through the membership of the Egyptian Electricity Holding Company in the African Energy Utilities Association (APUA), where international job advertisements that are advertised in African and international organizations were published on the Egyptian Electricity Holding Company and its subsidiaries and the Ministry's General Office, and following up the candidates to fill those jobs according to the best competencies.

 The efforts of the Board of Directors of the Egyptian Electricity Holding Company are concerted to enhance competitiveness and prepare electricity companies for the competitive market, where the Board of Directors of the Egyptian Electricity Holding Company holds periodic meetings with subsidiaries to evaluate financial, commercial and technical performance and follow up on performance improvement procedures.

### **Audit Committee**

### The Audit Committee of the Egyptian Electricity Holding Company:

#### During the fiscal year 2023/2024, (Four) meetings of the Audit Committee were held to discuss several

 Reviewing the preliminary financial statements and closing accounts of the Egyptian Electricity Holding Company for the fiscal year 2022/2023 and recommending by presenting it to the esteemed Board of Directors of the company in order to send them to the Accountability State Authority.

 Discussing the report of the Financial Affairs Sector on the final financial statements and their supplementary clarifications for the fiscal year 2022/2023, as well as the report of the Accountability State Authority and recommending their presentation to the Board of Directors of the company for approval to be presented to

 Reviewing the consolidated financial statements and final accounts of the Egyptian Electricity Holding Company and its subsidiaries for the fiscal year 2022/2023, discussing the financial report and the supplementary clarifications thereon, and recommending presenting them to the esteemed Board of Directors of the company in preparation for sending them to the Accountability State Authority.

 Reviewing the budget plan of the Egyptian Electricity Holding Company for the fiscal year 2024/2025 and recommending presenting them to the esteemed Board of Directors of the company for possible adoption.

## The most important tasks of the Audit Committees in affiliated Companies during the fiscal year

Ensuring the existence of an effective control system to protect the company's assets.

· Verifying the extent of compliance with the laws and regulations governing work in all company departments. Following up the Internal Audit Department reports and evaluating its effectiveness in accomplishing the

Approving the internal audit annual plan and evaluating the extent of implementation of the internal audit

• Studying the observations and reservations of the Central Auditing Organization on the company's financial statements and following up on what has been taken by the company to avoid these observations, especially





### Egyptian Electricity Holding Company

- Following up on the status of legal disputes to which the company is exposed and the action taken in them and their financial impact.
- Following up on the status of stagnant inventory and economic management in a way that achieves the highest economic benefits.
- Ensuring the accuracy of estimating the budget planning for the fiscal year 2024/2025 in line with the plans and strategies targeted to be achieved.

#### **Regarding distribution companies:**

- Follow up on the implementation status of projects and external works and investigate the reasons for delay in implementing projects.
- Follow up on achieving the company's targeted commercial performance indicators and the reasons for deviation and issuing recommendations to avoid them.
- Follow up on the action taken regarding revitalizing collection and reducing arrears, as well as the procedures followed to improve technical and commercial loss rates and evaluate the work of those responsible for implementing the judicial police.
- Follow up on quality indicators and the necessary procedures to examine the number of times and duration of power outages for subscribers.
- Follow up on plans to replace meters and change meters.

#### **Regarding production companies:**

- Follow up on technical performance indicators for stations affiliated with each company and determine the reasons for deviation for study and analysis.
- Follow up on technical malfunctions in the company and implement the recommendations of the company's internal committees and the central committee of the Egyptian Electricity Holding Company.
- · Follow up on the implementation status of maintenance programs for their direct impact on reliability indicators for production stations.
- Follow up on the implementation of procedures related to occupational safety and health and safety systems within stations to maintain a safe work environment.

### Governance

Within the framework of the efforts made by the Egyptian Electricity Holding Company to revitalize and apply the principles of governance, as well as prepare electricity companies for the competitive market, the efforts of the Board of Directors of the Egyptian Electricity Holding Company and the Executive Management are combined to implement the principles and rules of "governance" through:

- Implementing training and educational programs in the service centers of electricity distribution companies to spread the culture of commitment and educate employees about the danger of corruption and the importance of combating it, which aims to, :
- Improve the quality of services provided by electricity distribution companies to all customers.
- Marketing all services provided by electricity distribution companies.
- The unified procedural guide for guality has been approved in customer service centers in electricity distribution companies with the aim of governing the procedures for providing services to customers to ensure that they are provided in a manner that achieves their satisfaction.
- A set of training programs and workshops were implemented according to the contract concluded with the consulting office Mustafa Shawky "MAZARS", as follows:
- Building capacities and developing skills to combine theoretical training and practical practice in the internal audit activity for each of:



- Sports play an important role in raising the level of physical and psychological health, which spreads the spirit of cooperation and optimism among workers, which leads to increased production. The Egyptian Electricity Holding Company and its affiliates develop all available sports activities, including (rowing indoor football - basketball - athletics team - sports schools - Ramadan football tournaments).
- Over the past years and Sponsored by His Excellency the Minister of Electricity and Renewable Energy, the electricity sector has succeeded in achieving many achievements, including:
- September 2024.
- Rising of each of the teams (Athletics for the Disabled Athletics Karate) of Alexandria Electricity Distribution Company to the Republic Championship for Companies.
- West Delta Electricity Distribution Company won many advanced positions in the Republic Championship for Companies in 2024 with a total of 32 various medals, as well as first place from the Egyptian Bodybuilding Federation and first place for commitment and sports behavior and rising the teams participating in the various games to the finals for the Republic Championship for Companies in 2024.
- Some employees of North Cairo Electricity Distribution Company received the First-Class State Medal for their participation in the African tournament Ghana 2024 (Mr. Alaa El-Din Hassan Kamel - Mr. Ismail Sanusi Ismail - Karim Ibrahim Abu Kahla - Islam Abu Al-Wafa Muhammad - Ahmed Sayed Ashour).
- North Cairo Distribution Company also participates in about 25 sports and cultural games for the competitions organized by the General Sports Federation for Companies in the Cairo region and the Republic Championship. The company is represented by about (535 male and female employees) from the company's sons. The company's teams have won a large number of Republic Cups for companies as follows:
- Winning 178 various medals in the Republic Championship for Companies.
- Participating in photographing all departments in the company from the Fine Arts team and participating in the Ministry of Culture exhibition in the name of the company.
- Participation of some of the company's employees in Paris 2024 Olympics, namely:
- » Captain/ Alaa El-Din Hassan Kamel Technical Director of the Egyptian Weightlifting Team Receiving the Presidential Honor from His Excellency President Abdel Fattah El-Sisi (First Class Medal) following his participation in Paris 2024 Olympics.
- » Player/ Karim Ibrahim Abu Kahla Player of the Egyptian Weightlifting Team
- 20 teams have been qualified to participate in the Republic Championship for Companies No. (57) which will be held in the city of Port Said during the 2024 season.
- 2023/2024 season:
- 2024 in Ismailia):





- » Members of the audit committees of the affiliated electricity companies.
- » Employees of the General Department of Internal Audit at the Egyptian Electricity Holding Company and its affiliated companies.
- Implementing a training program to build capacities and develop skills for the risk management team at the Egyptian Electricity Holding Company and a selected group of employees at the affiliated companies to combine theoretical training and practical practice in risk management.
- Implementing a training program entitled "Developing and enhancing skills for the internal audit and risk teams at the Egyptian Electricity Holding Company and its affiliated companies - Soft Skills"

### **Sports activities**

- Rising of each of the teams: (Five-a-side football - Fine Arts - Folk Arts) of Upper Eqypt Distribution Company to the Republic Championship for Companies No. (57), which will be held in Port Said in

- » Captain/ Mohamed Hosni Taha Coach of the Egyptian Weightlifting Team.
- Some employees of the North Delta Electricity Distribution Company won the following medals during the

 Ragab Abdel-Hay Masoud won first place in weightlifting and won (1) gold medal and (2) silver medals at the African Games in 2024 in Ghana - and (2) gold medals at the African Weightlifting Championship in

Egyptian Electricity Holding Company

- Mahmoud Mohamed Ahmed Salama won first place in table tennis and won (2) gold medals at the Kosovo International Championship and the Jeddah International Championship in the Kingdom of Saudi Arabia.
- South Cairo Electricity Distribution Company also participated in many championships as follows:
- Republic Championship for Companies with (11) teams rising and 6 teams winning first place, 4 teams winning second place, and 1 team winning third place.
- Participation in the Arab Football Championship and obtaining first place and participation in the Arab Corporate Table Tennis Championship and obtaining third place.
- Participation of coach/ Jaber Ahmed Farhan in the African tournament (Ghana) and the World Championship for adults in Bahrain and obtaining the (Nile Medal) from the Presidency of the Republic and participation of coach/ Ahmed Mohamed Abdel Aziz in the World Youth Championship in Peru.





### Social and Environmental Responsibility

The holding company and its affiliates contribute to serving the community in several areas, including:

### Decent Life Project for the most needed villages:

- A monthly periodic executive position is made for the Decent Life Project, including (the position of approving drawings and designs / the position of approving missions / the position of traffic and follow-up committees / the executive position of operations / villages / centers / governorates / companies) as well as pictures of what was implemented according to technical principles and pictures of the most important observations that were monitored by the traffic committees of the Egyptian Electricity Holding Company and distribution companies.
- The inspection of school roofs has been completed, where it was found that solar stations can be installed for 439 schools out of a total of 3284 schools with a total capacity of 3624 kW to be used to generate solar energy within the national project Decent Life, and coordination is underway with the New and Renewable Energy Authority in this regard.



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buildings with a total capacity of 98 kW.

### I. Effective participation with the community:

- affiliated companies to serve the labor market.
- production.

### II. Preserving the environment and reducing carbon emissions:

- of 1994.

- non-fruit trees around power generation stations.





• The inspection of 627 government buildings was completed, where it was found that solar power stations can be installed for 17 buildings (new buildings with a meter installed) out of a total of 58 government

· Serving the national objectives of developing centers and villages by manufacturing low-voltage poles for electricity distribution companies according to the instructions of the Egyptian Electricity Holding Company. Participation of fire engines and ambulances at the stations of affiliated companies in firefighting operations or rescuing the injured in neighboring villages or on highways.

 Sending medical convoys to all governorates of the Republic to provide medical services to all workers in the electricity sector, especially in remote areas that lack adequate health services.

• Effective participation in developing the local community by holding specialized courses, computer and English language for workers' families to develop their training skills.

 Continuing cooperation with the Ministry of Higher Education to train students of universities and government and private institutes in training centers affiliated with the Egyptian Electricity Holding Company and its

• Graduating trained generations from industrial schools, (3) year and (5) year system.

 Providing field visits for technical school students to production stations to develop their sense of belonging and inform them of the achievements made and keeping pace with technologies in the field of electricity

• Maintaining the environmental compatibility of power plants in compliance with Environmental Law No. (4)

 Adopting an emergency plan to combat Nile water pollution for stations located on the Nile River through the Environmental Crises and Disasters Sector - Environmental Affairs Agency.

 Linking emissions from power generation stations with the national emissions monitoring network affiliated with the Environmental Affairs Agency, which helps monitor carbon emissions and the extent of stations' commitment to the goal of reducing these emissions.

Preserving the Nile River water by using treated sewage water and treated industrial wastewater to irrigate

· Using treated industrial wastewater to grow jojoba trees at the West Assiut station.

· Reducing the amount of carbon emissions by increasing the efficiency of energy production and reducing fuel consumption rates as a result of raising the percentage of combined generation participation, especially Siemens stations, from the total thermally generated energy.

· Signing (27) memoranda of understanding to produce green hydrogen and green ammonia with the largest global and local alliances, and (15) framework agreements were signed with developers in this regard, with these projects to be implemented in several phases over the coming years.

• In the field of **energy production from solid waste**, an energy purchase contract was signed, and the electrical grid was connected to the station for converting municipal solid waste into electrical energy within the scope of the South Cairo Electricity Distribution Company with a capacity of 30 megawatts.

• In the field of electric cars, an electrical quality measurement device was installed for three electricity distribution companies: North Cairo, South Cairo and Alexandria, and a technical study was conducted on the elements of the electrical network for AC charging units and DC charging units, in order to spread and expand the use of electric transportation methods due to its positive impact on preserving the environment.





Egyptian Electricity Holding Company (EEHC)

# Medical Services Company (MSC)

On February 16, 2020, the General Assembly of the Egyptian Electricity Holding Company approved the composition of the 1st independent Board of Directors of the Medical Services Company.

eographical Zone	Head Office	Capital (m. EGP)	Address	Phone & Website
All overnorates of Egypt	Nasr City, Cairo	266.000	Kilo 4.5 on Suez Road, Thawra St. Extension, Cairo	02-26786179 Hotline: 15637 www.eehc.gov.eg/msc

## Vision of MSC:

 Provide comprehensive and distinguished health care that keeps pace with medical progress both locally and abroad.

### **Mission:**

 Providing distinguished and safe medical services of high quality at an acceptable cost with a commitment to development, improvement, innovation and optimal use of available resources through gualified medical cadres - modern technologies and contributing to the establishment of a health service with its contents, in order to raise the level of health care for electricity employees and the Egyptian society.

### **Objectives of the Company:**

- # Comprehensive development of the health care system and medical services provided (quantitatively and gualitatively), taking into consideration the economic cost and financial return of the services provided, while facilitating the means of measurement and evaluation.
- # Standardization of medical services for all employees at all levels.
- # Ensure the optimal utilization of the Ministry's financial resources by working to provide distinguished and high-guality medical services at an appropriate cost that ensures the continuity and comprehensiveness of services with the same standards for all employees of all companies.
- #Work on the continuous evaluation of services and review and analyze performance indicators to make decisions that contribute to the advancement of the health care system.
- # Ensuring the engagement of distinguished elements from human resources to provide the service in various fields and working on continuous training and evaluation of them, as well as the use of distinguished consultants and experts in all specialties and fields to keep pace with and compete with the best medical institutions in the Republic.
- # Permanent development and raising the efficiency of medical equipment and infrastructure of the company's medical facilities.
- #Work on preparing the company's medical hospitals and qualifying them to obtain the Egyptian accreditation for quality as a first step and then qualify them to obtain the Joint Commission International for the quality of medical services.
- # Digital transformation and the development of a system to link sectors to provide service at the level of the Republic.
- # Raising health awareness and infection control culture for all employees of electricity companies nationwide.
- # The state's participation in health care campaigns such as" 100 million health and community services represented in medical convoys and keenness to preserve the environment in accordance with national and international standards.



### **Medical and Service Sectors of the Company**

The Medical Services Company (MSC) is composed of six medical sectors (Cairo, Giza, Ismailia, Assiut, Mansoura and Alexandria) where standards have been unified in terms of providing medical services at all companies and adding further advantages for the benefit of the employees and the interest of the companies.

#### During the year 2023/2024, the Company took multiple actions, including for example:

- radiology physiotherapy) and intensive care.
- breakthrough in diagnosis.
- of lung and pleural tumors.
- Committee, and the Treatment of Obesity Diseases.
- of (20) beds.
- and Health Control.

- sector.

- pace with scientific developments.



# Developing the work system in outpatient clinics, internal departments, and auxiliary departments (laboratory

# Providing Almaza Electricity Hospital with the latest modern technology devices, which will achieve a

# Introducing artificial intelligence in the radiology department at Almaza Electricity Hospital for early detection

# To govern the medical service within the Electricity Hospital, several medical committees have been formed to establish the necessary regulatory controls to review cases and develop treatment plans according to international protocols, including the Central Cardiology Committee, the Tumors and Biological Therapy

# Completing the development of Ismailia Electricity Hospital and increasing its capacity to (72) beds instead

# The initial designs are being approved by the Accreditation and Health Control Authority for the Aswan High Dam Hospital development project and converting it into an advanced center for one-day surgeries.

# The designs of Mansoura Electricity Hospital have been completed and approved by the General Authority

# Activating work in four specialized clinics within the Medical Services Company's plan to establish a series of specialized clinics in the governorates of the Arab Republic of Egypt.

# Developing and distributing infection control policies and developing the infection control unit.

# Sending medical convoys to remote areas to provide medical services to all employees in the electricity

#Improving the company's information technology systems, as the infrastructure of the data center was completed and a remote connection was established between the specialized clinics in Roxy, Minya, Assiut, Alexandria and the main data center at the Electricity Hospital.

# Continuous evaluation of employees to improve performance.

# Taking measures to tighten the documentary cycle, internal control and governance.

#Increasing interest in raising the level of medical and technical cadres working in the medical sector at the Egyptian Electricity Holding Company and the Medical Services Company and informing them of modern medical fields through training courses in Egyptian universities and attending medical conferences to keep



#### The globally recognized pricing policies aim to achieve the following:

- tariff, as amended by Decree No. 2259 of 2015.
- years starting from 1/7/2020.
- apply during those periods.
- during the month of July 2024.

# 48.550

68.102

## Financial, commercial and financing activity

The Egyptian Electricity Holding Company manages the securities portfolio and invests its funds, in a way that enhances the management of available cash liquidity to secure the payment of inevitable obligations, including: oil sector dues, loan burdens, and wages, as well as arranging the necessary financing to implement the investment projects of the Holding Company and its subsidiaries.





## **Electricity Repricing**

· Prices realize financial and economic efficiency of the electricity utility.

• Prices cover costs according to feeding voltage.

• Prices reflect the right indicator of electricity usage, taking into consideration the social dimension (i.e., affordable price to consumer), transparency, simplicity, and justice.

 According to the Electricity Law, the Electricity Utility and Consumer Protection Regulatory Authority has been mandated to review the prices approved by the Council of Ministers for electricity selling tariff, and the Prime Minister's Decree No. 1257 of 2014 was issued in regard to restructuring the selling

 On 28/4/2020, a Decree was issued by the Regulator in its 9th session in FY 2019/2020 approving the electricity selling tariff for the following 5 years starting from 2020/2021.

• On 9/6/2020, the Decree of the Minister of Electricity and Renewable Energy No. 100 of 2020 was issued. which includes in its first article "The electricity tariff and customer service fees are determined for the next five

• Due to the economic changes that the country is going through and to alleviate the economic burdens on citizens, the price increase that was scheduled to be applied for the third year by Decree No. 100 of 2020, which was scheduled as follows, has been postponed:

» On 2/8/2022, Ministerial Decree No. 160 of 2022 was issued to postpone the electricity tariff that was scheduled to be applied on 1/7/2022 for a period of 6 months ending on 31/12/2022, then on 9/1/2023, Ministerial Decree No. 8 of 2023 was issued to extend the implementation of Ministerial Decree No. 160 of 2022 for another six months from the period ending On 30/6/2023, the prices for 2021/2022 will continue to

» On 17/8/2023, Ministerial Decree No. 207 of 2023 was issued to postpone the implementation of the electricity tariff stipulated by Decree No. 100 of 2020 of the Minister of Electricity and Renewable Energy for the fourth year, which was scheduled to be implemented on 1/7/2023, for another six months of the period ending on 31/12/2023, with the tariff set for the fiscal year 2021/2022 continuing to apply.

• On 31/12/2023, the Minister of Electricity and Renewable Energy issued Decree No. 342 of 2023 regarding the electricity sales tariff to be applied from 1/1/2024 until 30/6/2024. The decision will continue to be in effect

• On 18/8/2024, the Minister of Electricity and Renewable Energy issued Decree No. 146 of 2024 regarding the electricity sales tariff to be applied starting from the consumption of the month of August 2024.



Egyptian Electricity Holding Company

#### The following table illustrates the electricity tariff and customer service charge for different uses for the two years until 30 June 2024.

Purpose of Usage	Selling tariff (piaster/kWh)	Customer Service Charge LE / Cons. / m				
Ul	tra-High Voltage (220 -13	2 kV.)				
Kima	160					
Metro	160	35.0				
Other Subscribers	160					
High Voltage (66 - 33 kV.)						
Metro	174	35.0				
Other Subscribers	174	35.0				
Ν	/ledium Voltage (22 – 11	kV.)				
Irrigation Purposes	194					
Water & Sanitation Companies	194	35.0				
Other Subscribers	194					
Low Voltage (380 V)						
Irrigation	200	4.0				
Other Subscribers	234	15.0				
Public Lighting	234	15.0				

Household Usag	es		Commercial Stor	es		Customer Service Cha	rge
Consumption brackets (kWh / month)	Piaster / kWh		Consumption brackets (kWh / month)	Piaster / kWh	C	Consumption brackets (kWh / month)	LE / Con /Month
0 - 50	68.0		0 100	85.0		0-50	1.0
51 - 100	78.0		0 - 100	05.0		51-100	2.0
Consumption from 101 to	nsumption from 101 to 650 kWh		onsumption from 101 to	250 Kwh		101-200	6.0
0 - 200	95.0		0 - 250 168.0			201-350	11.0
201 - 350	155.0	С	Consumption from 251 to 1000 Kwh			351-650	15.0
351 - 650	195.0		0 - 600	220.0		651-1000	25.0
Consumption more than	650 kWh		601 - 1000	227.0		More than 1000	40.0
0 – less than 1000	210.0	С	Consumption more than 1000 kWh		Z	ero reading & closed units	9.0
0 – 1000 and more	223.0		0 – 1000 and more	233.0		Commercial Stores	
						0-100	5.0
						101-250	15.0
						251-600	20.0
						601-1000	25.0
						More than 1000	40.0
					Z	ero reading & closed units	9.0

	Distribution	Companies	Transmissic	on Company	TOTAL	
Purpose	Quantity (GWh)	QuantityPercentageQuantityPercentage(GWh)(%)(GWh)(%)		Quantity (GWh)	Percentage (%)	
Industry	23190	16.1	25532	73.4	48522	27.0
Agriculture	7863	5.4	1975	5.7	9838	5.5
Government & Public Utilities	17725	12.3	856	2.5	18581	10.4
Household	66571	46	0	0	66571	37.2
Public Lighting	4792	3.3	0	0	4792	2.7
Commercial Stores	9763	6.7	0	0	9763	5.4
Others	17456	10.2	4263	12.3	19019	10.6
Interconnection Countries & BOOT	0	0	1292	3.7	1292	0.7
Outgoing energy in–kind & colonies	0	0	814	2.4	814	0.5
Grand Total	144660	100	34532	100	179192	100

### **Energy Sold on all Voltages According to Usage (%)** for FY 2023/2024

Comme	rcial 5,4%	Sto
Public Lighting		
2,7%		

Household 37,2%

- 1- Prices are applied based on a capacity factor of 0.92.
- 2- Prices are determined according to the exchange rate announced by the Central Bank, and the tariff must be reviewed if the exchange rate changes.





## Quantities of Sold Energy According to Purposes (2023/2024)





Description		2022/2023	2023/2024	Variation %
Net Fixed Assets	Billion EGP	568	699.9	23.22
Inventory	Billion EGP	56.1	80.1	42.78
Cash Balance	Billion EGP	24.8	32.5	31.05
Net Working Capital	Billion EGP	(42.4)	(23.1)	(45.52)
Equity	Billion EGP	146.1	174.4	19.37
Total Revenues (excluding revenues from exchanged energy)	Billion EGP	220.3	332.3	50.84
Total Costs & Expenses (excluding expenses of exchanged energy)	Billion EGP	228.5	317.9	39.12
Net Profit (Loss)	Million EGP	(8.2)	14.4	275.61
Total Executed Investments	Billion EGP	18.5	18.7	1.08
Financing burdens (installments & Interests)	Billion EGP	60.87	86.4	41.94
Loans	Billion EGP	378	533.7	41.19

### **Most Significant Financial Indicators:**

- the increase in current assets.
- 2- The liquidity ratio increased to 0.73 times instead of 0.59 times in the previous financial year as a result of the increase in current assets and The increase in cash at banks and cash in hand.
- 3- The worker productivity improved to 1833.63 EGP/worker instead of 1496.98 EGP/worker as a result of the increase in revenues of the current activity and the decrease in number of workers.
- 4- The Debt/ equity ratio increased to 1:3.06 against 1:2.59 in the previous financial year as a result of the increase in loan balances largely due to revaluation of balances in accordance with the change in foreign currency exchange rates in addition to withdrawals from new loans.
- 5- The ratio of total liabilities / equity increased to 541.42% against 456.91.% in the previous financial year as a result of the increase in total liabilities.

### Total sold energy over all voltages Distributed according to purposes (G.W.H.) for FY 2023/2024

Type of Usage	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
Industry	41147	42123	45701	46448	48522
Agriculture	7373	7923	8639	9540	9838
Utilities	6487	6866	7114	7417	18581
Public lighting	4731	5463	5879	5361	66571
Gov. Entities	6905	7472	9066	10648	4792
Household	61542	62393	62912	63415	9763
Stores & Others	19045	20022	22720	24868	19019
Interconnection & BOOT	891	1427	1501	1247	1292
Outgoing energy in-kind & Colonies	396	487	453	635	814
Alfa Energy	0.07	0	0	0	0
Grand total	148517	154176	163985	169580	179192







### **Financial Position of EEHC and Subsidiaries**

1- The current ratio increased to 0.94 times instead of 0.82 times in the previous financial year as a result of





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## **Companies Having Capital Shares by EEHC**

Name of Company	Paid-up Capital	Percentage of Capita Participation
The Egyptian Company for Manufacturing Electricity Insulators	72.5 Million EGP	4.96 %
Electric Power System Engineering Company	5 Million EGP	40%
Egyptian German Electric Manufacturing Company (EGEMAC)	250 Million EGP	62.48 %
Power Generation Engineering and Services Company (PGESCO)	105 Million EGP	20 %
ARABIAN Consultancy Engineering Services Company (ACESCO)	3 Million USD	49 %
African Company for Electrical and Mechanical Projects (Libya)	5 Million LYD	10%
EI-Nasr Transformers & Electrical Products (ELMACO)	51.3 Million EGP	29.7 %
Elmaco Company for manufacturing smart meters	50 Million EGP	65%



(Amounts in 10		30/06/2024	
Total	Net Value	ITEM	comparative year
	699,925,757 37,509,754 335,686 26,726,088 2,188 642,730	ASSETS Non-Current Assets Fixed Assets Projects in progress Long-term investments Clients, notes receivable & debit accounts Leased assets Other assets	567,986,052 28,960,555 283,086 17,137,076 2,215 279,035
765,142,20		Total Non-Current Assets	614,648,019
	110,408 80,150,104 239,509,226 1,116,173 32,524,266	CURRENT ASSETS Retained assets for sale Inventory Clients, notes receivable & debit accounts Current financial investments Cash	122,791 56,124,152 117,264,158 682,295 24,778,202
353,410,17		Total Current Assets	198,971,598
1,118,552,38		TOTAL ASSETS	813,619,617
99,933,13	22,983,656 2,953,744 97,669 46,035 48,372,068	Equity Paid-up Capital Reserve Legal Reserve Capital Reserve Other Reserves Revaluation Surplus Capital Capita	85,246,218 18,321,891 2,759,088 98,597 46,035
74,453,17	40,012,002	Carried Profit (Loss)	39,624,362 60.849,973
174,386,30		TOTAL EQUITY	146,096,191
468,620,12 7,687,74 91,307,52	387,125,150 81,494,972	NON-CURRENT LIABILITIES Non-Current Loans & Debt Tools Long-Term Loans From Banks Long-Term Loans From Other Entities Profits not yet recognized Other Non-Current Liabilities	271,893,031 56,936,936 328,829,967 2,752,208
567,615,38		Total Non-Current Liabilities	94,589,511
	5,970,039 3,251,771 73,920,605 293,408,267	Current Liabilities Provisions Overdraft Installements of non-current liabilities Suppliers , Notes Payable & Credit Accounts	426,171,585 5,392,483 961 58,074,726 177,883,570
376,550,68		TOTAL Current Liabilities	241,351,740
1,118,552,38		TOTAL EQUITY & LIABILITIES	813.619.617

N. Katry ACC. Nadia Abdel-Aziz Katary





### Consolidated Balance Sheet of EEHC and affiliated Companies 30/6/2024

inancial, Commercial & Financing Affairs

Caber Eng. Gaber Dessouki Moustafa





# Consolidated Income Statement of EEHC and affiliated Companies for the financial period from 1/7/2023 to 30/6/2024

of EEHC and Affiliated Companies					
for the Financial Period from 1.7.2023 to 30.8.2024 (Amounts in 1000					
Comparative Year	Item	1.7.2023 to 30.6.2024			
421,509 179,345,013 1,665 3,129,738 9,094,732 0 6,005,381 13,239 42,075 4,050,953 2,993,056 4,323,019 4,323,019	Revenues of Continous Operations: Net Sales of Finished Products (Other than Electricity Sales ) Net Sales of purchased goods (Lamps ) Rendered Services (customer service) Revenues form power grid usage Revenues of Operation for Others Medical Services Revenues Other Revenues of Current Activity Grants and Subsidies (Decrease in Energy prices for Industry ) Grants and Subsidies (MOF share in the interests of the two ambitious plan loans) Grants and Subsidies (Diffrence between the average cost and selling price)	799,127 204,832,958 2,074 3,337,436 13,001,458 146,971 9,913,501 9,383 55,920 4,223,569 3,060,175 78,762,318 11,097			
2,929	Total Revenues of Continous Operations	and the second	318,175,987		
-205,337,168 -978,333 -666.868	Less: Cost of Production/Purchasing Sold Units Interests of Lease Financing Loans Amortization of Lease Financing Assets	-286,983,723 -1,939,487 -1,017,441			
2,440,940	Gross Profit (Loss)		28,235,336		
-7,098,135 -56,206 -7,765,294 -2,455,240 182,521 -1,816,279 437,806 -547 69,672 63,355 6,413,288 -1,070,103	Costs of marketing (Selling & Distribution) Administrative Expenses: Lump sum Salaries, Attendance & Transport Allowances for Board Members Other Administrative Expenses Provisions (other than Depreciation and Fall of Inventory Prices) Provisions No Longer Required Profits (Losses) of Foreign Exchange Differences Capital Profits (Losses) Bad Debts Profits (Losses) of Selling Financial Investments Profits (Losses) of Selling Financial Investments Other Revenues Other Expenses	8,227,950 -74,281 -10,691,058 -2,489,439 115,515 -686,360 194,656 0 0 172,700 8,090,468 -2,873,734			
-10,674,221	Result of Operating Activities		11,765,853		
2,857,104	Financing Revenues Financing Expenses	3,604,434 -820,027			
2,563,852	Net Financing Cost		2,784,407		
-8,110,369	Net Profit (Loss) Before Income Taxes		14,550,260		
-129,833	*Income Taxes		-167,603		
-8,240,202	Net Profit (Loss) from Continous Operations after Income Taxes		14,382,657		
0	Net Profit (Loss) from Non-Continous operations after Income Taxes	S Charles	0		
-8,240,202	Net Profit (Loss)		14,382,657		

Income Taxes belong to Upper Egypt Electricity Distribution Company and Medical Services company.

**Board Member** 

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Financial, Commercial & Financing Affairs

N. Kathy

ACC. Nadia Abdel-Aziz Katry

Chairman

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Eng. Gaber Dessouki Moustafa