

Arab Republic of Egypt  
Ministry of Electricity & Renewable Energy

Ministry of Electricity and Renewable Energy  
Egyptian Electricity Holding Company



# Egyptian Electricity Holding Company

Annual Report  
2022/2023



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**Dr. Mohamed Shaker Al-Marqaby**  
Minister of Electricity and Renewable Energy





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



## Table of Contents:

- Egyptian Electricity Holding Company (EEHC)	5
- Production of Electrical Energy	12
- Transmission of Electrical Energy	38
- Distribution of Electrical Energy	54
- Human Resources & Training	72
- Medical Services	84
- Commercial, Financial & Financing Activity	88





The background features a stylized graphic of wind turbines on the left and high-voltage power lines stretching across the right side, set against a blue gradient background with a lightning bolt icon in the upper right.

# Egyptian Electricity Holding Company (EEHC)

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.

Headquarter	Issued Capital (Billion EGP)	Authorized Capital (Billion EGP)	Address	Phone Numbers
Cairo	85.246218	120	The New Administrative Capital	(02) 205 33 533 Website: <a href="http://www.eehc.gov.eg">www.eehc.gov.eg</a>





## Vision

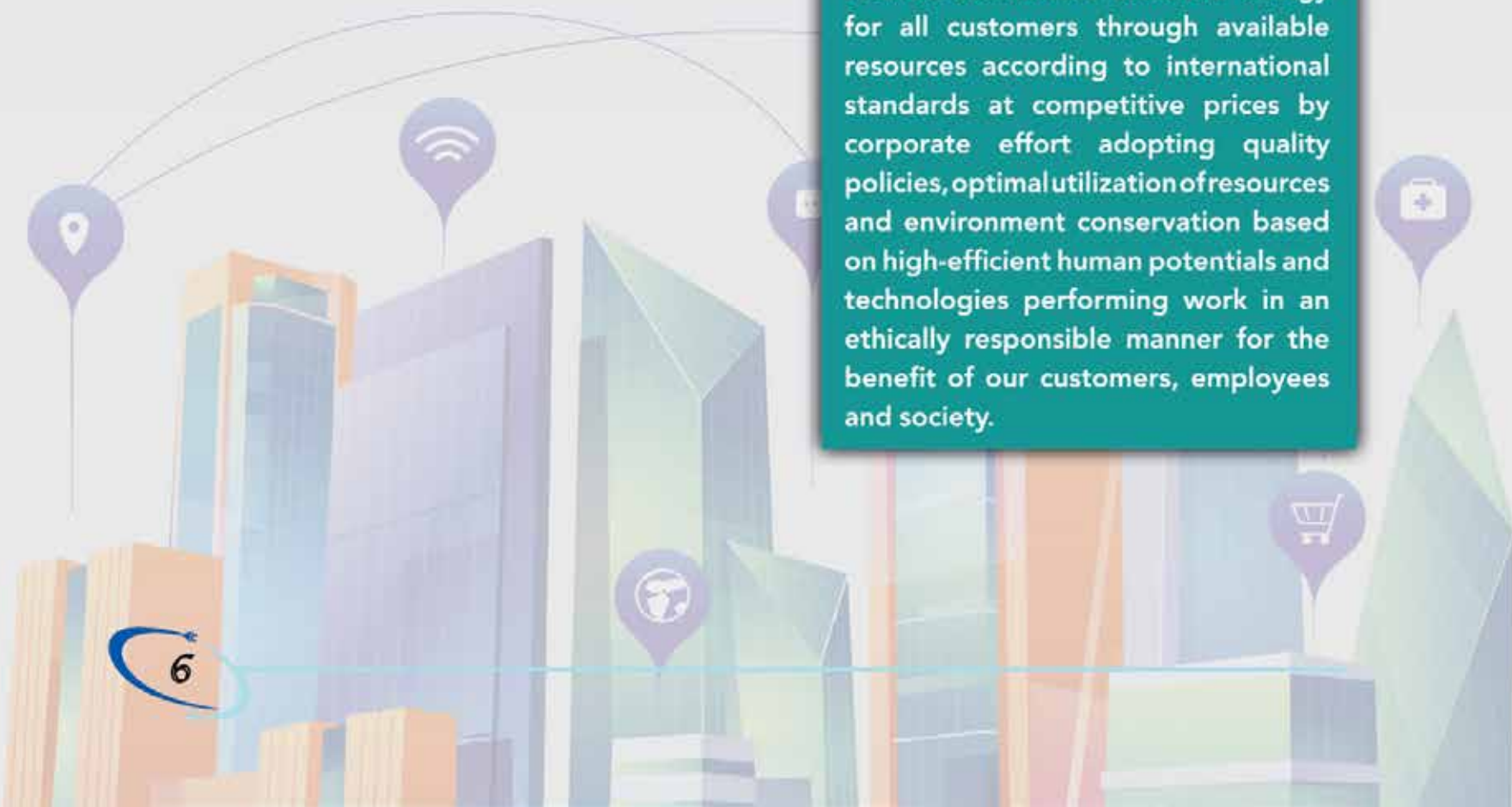


"World Class Leadership and Excellence  
for Sustainable Electrical Energy"

## Mission



Provide sustainable electrical energy for all customers through available resources according to international standards at competitive prices by corporate effort adopting quality policies, optimal utilization of resources and environment conservation based on high-efficient human potentials and technologies performing work in an ethically responsible manner for the benefit of our customers, employees and society.





The Egyptian Electricity Holding Company and its subsidiaries were able to achieve their objectives and implement their mission despite facing the unfavorable international conditions that struck the entire world in recent years, which had a tangible impact on all economic and technical fields, including the fields of the electricity sector. EEHC and its subsidiaries have proven that they have the ability to face and overcome these difficulties, thus achieving the immortal saying, "It may be difficult to realize success, but more difficult is to maintain and develop it". This is done through many policies, including, but not limited to:

- ⚡ Continuous monitoring of all thermal and hydroelectric power production plants and preparing the necessary reports to maximize the positive side, exchange experiences between affiliated companies, and reduce any negative phenomena.
- ⚡ Updating the strategic planning system to keep pace with the increase in demand for energy in line with the expected expansion in the use of new and renewable energies, integrating expansion plans with strengthening electricity transmission networks on the various voltages to support the unified grid to accommodate the added generation capacities, and establishing and developing control centers for electricity transmission and distribution to achieve optimal network operation.
- ⚡ Updating the energy strategy, as well as reviewing the hydrogen strategy for the Arab Republic of Egypt.
- ⚡ Studying the proposals submitted regarding proposed investments in the field of green hydrogen generation using renewable energies, seawater desalination projects using solar concentrators, and a PV floating power plant project.
- ⚡ Signing memoranda of understanding with a number of consortia for production of electricity from renewable energies at an unprecedented competitive price.
- ⚡ Verifying the optimal management of assets, and improving the level of services provided to citizens to ensure the provision of high-quality services consistent with the international specifications and standards through multiple channels, such as service centers, the hotline, the unified platform of electricity smart services and the electronic application.
- ⚡ Strengthening and developing the unified national grid to transform Egypt into a regional hub for energy exchange by way of enhancing the existing regional interconnection with Jordan, Libya and Sudan, as well as the ongoing interconnection projects with the Kingdom of Saudi Arabia, and the planned ones with Greece, Cyprus and the Gulf Interconnection Authority.
- ⚡ As part of the Egyptian electricity sector's endeavor to transform Egypt into a pivotal energy center, and in order to benefit from investment opportunities in generating clean energy, EEHC encourages the implementation of electricity generation plants from renewable energies of all types, whether through the private sector or by itself.
- ⚡ Encouraging the production of electricity from waste material by purchasing the electricity produced at an agreed upon price for its good environmental impact.
- ⚡ Contributing to updating data and studies on the Egyptian electricity sector in partnership with regional and international bodies such as the Eastern Africa Energy Pool (EAPP) and the Mediterranean Energy Observatory (OME).

Out of its belief in the importance of documenting information and data, EEHC is privileged to issue this Statistical Report on its activities and accomplishments in 2022/2023, hoping it would serve as a useful reference for energy specialists.

In conclusion, it gives me great pleasure to express my deepest thanks and appreciation to all employees of EEHC and subsidiaries who participated in all the achievements referred to in this Report.



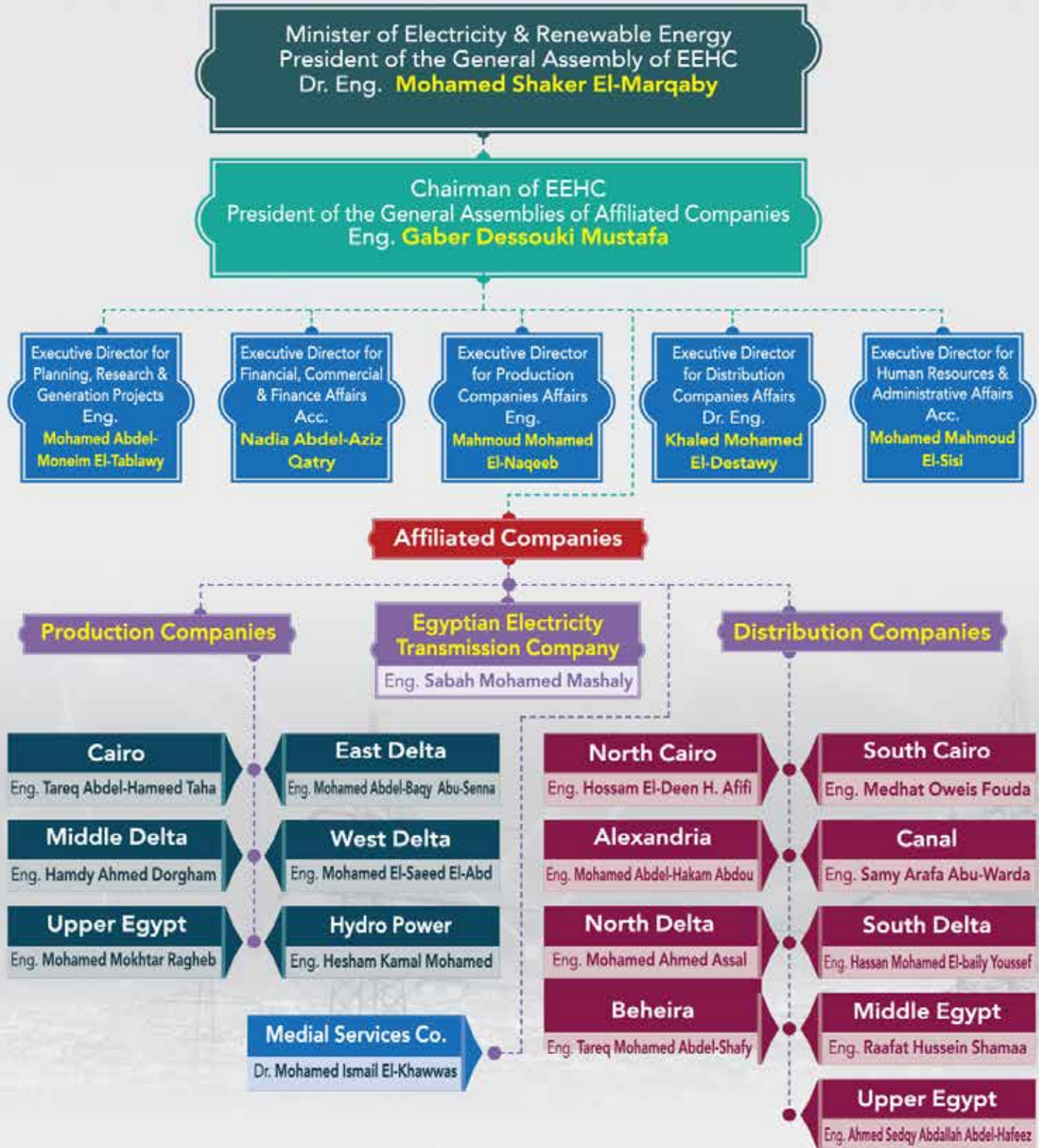
Foreword by the Chairman

**Eng. Gaber Dessouki Mustafa**  
Chairman





## Organizational Structure of EEHC (as at 30/6/2023)





## Board of Directors (as at 30/6/2023)



**Eng. Gaber Dessouki Mustafa**  
Chairman of EEHC

### EEHC Representatives



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



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



**Eng. Mahmoud Mohamed ElNaqeeb**  
Executive Director for Production Companies' Affairs



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



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



**Mr. Hesham Ahmed Fo'ad**  
Board Member representing Employees

### Representatives of Ministries & Government Agencies



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



**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



**Dr. Eng. Magdy Mohamed Galal El-Deen Badr**  
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

- ⚡ Ministerial Resolution No. (193) of 2022 was issued appointing Mr. Dr. Ayman Al-Sayed Ibrahim as a representative member of the Mechanical and Electrical Department instead of Mr. Engineer / Mohamed Mohamed Abdel-Ati.
- ⚡ Ministerial Resolution No. (12) of 2023 was issued appointing Mr. Dr. Khaled Zakaria Amin as a representative member, On behalf of the Ministry of Planning and Economic Development, instead of Mr. Mohamed Farid Abdel Fattah.





## Objectives:

- ① Providing electric power on the various voltages for all uses with high efficiency at affordable prices.
- ② Carrying out planning, studies and designs in the field of competence of the Company and its affiliated companies.
- ③ 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.
- ④ Purchasing the electrical energy produced in power plants constructed by authorized local and foreign investors and selling it on the ultra-high voltage networks.
- ⑤ Working on rectifying the financing structures and economic path of the affiliated companies, maximizing their profitability and rationalizing costs.
- ⑥ Conducting researches and tests of electrical equipment of different voltages.
- ⑦ 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.
- ⑧ Carrying out consultancy and service works in the field of electric energy production, transmission and distribution locally and internationally.
- ⑨ 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.
- ⑩ 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.
- ⑪ Providing medical services.
- 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 exercises 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.**







## Electricity in 2022/2023

Description		2021/2022	2022/2023	Variation %
<b>Total Installed Capacity <sup>(1)</sup>:</b>	<b>MW</b>	<b>59866</b>	<b>59442.18</b>	<b>(0.7)</b>
• Hydro	MW	2832	2832	0
• Thermal (Affiliated Companies & EEHC Plants) <sup>(2)</sup>	MW	52405	52622.5	0.42
• New & Renewable Energy (wind, solar and thermal/solar) <sup>(3)</sup>	MW	3264	3308	1.35
• Private Sector power plants (thermal)	MW	1365	682.5	(50.0)
<b>Peak Load</b>	<b>MW</b>	<b>33800</b>	<b>34200</b>	<b>1.18</b>
<b>Total Power Generated (on country level) :</b>	<b>GWh</b>	<b>214220</b>	<b>216252</b>	<b>0.95</b>
• Hydro	GWh	14646	15458	5.5
• Thermal <sup>(4)</sup>	GWh	179977	184578	5.6
• New & Renewable Energy <sup>(5)</sup>	GWh	10537	10642	0.99
• Private Sector (BOOT)	GWh	8890	5399	(39.3)
• Unconnected Plants and Reserves	GWh	147	163	10.88
• Industrial Companies' Surplus	GWh	23	12	(47.83)
<b>Total Fuel Consumption <sup>(6)</sup></b>	<b>K toe</b>	<b>34149</b>	<b>33500</b>	<b>(1.9)</b>
• In Production Companies (including EEHC's plants)	K toe	32275	3350	0.23
• In Private Sector power plants (BOOT)	K toe	1874	1150	(38.6)
Fuel Consumption Rate at Production Companies	gm/kWh gen.	179.3	175.26	(2.3)
Fuel Consumption Rate, including BOOT	gm/kWh gen.	180.8	176.3	(2.49)
Thermal Efficiency (including BOOT)	%	48.54	49.77	2.53
Ratio of N.G to total fuel consumed, including BOOT	%	89.9	87	(3.23)
Ratio of N.G for P.P connected to gas grid, Including BOOT	%	91.1	85.8	(5.93)
T. Length of Transmission Lines & Cables on HV & Extra HV	Km	56465	57504	1.8
T. Substation Capacities on HV and Extra HV	MVA	190310	199517	4.8
T. Length of Distribution MV&LV Lines and Cables	Km	562806	578588	2.8
T. Capacity for distribution transformers MV&LV	MVA	93357	100341	7.5
No. of Customers at Distribution Companies	M. Customer	39.1	40.7	4.1
No. of Customers at EETC	Customer	162	174	7.4
No. of Employees at EEHC and Subsidiaries	K. Employee	143.6	138.4	(3.6)

(1) There are unconnected units with a total nominal capacity of 216.2 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.

(6) In addition to the total consumed fuel at the isolated plants and reserves amounting to 32.5 K toe.









# Production of Electrical Energy

The Electricity Production Companies are:

Cairo Electricity Production Company

West Delta Electricity Production Company

East Delta Electricity Production Company

Upper Egypt Electricity Production Company

Middle Delta Electricity Production Company

Hydro-Power Plants Electricity Production Company





### Objectives of the Production Companies:

- 1 Production of electrical energy at the affiliated power plants.
- 2 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.
- 3 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.
- 4 Implementation of power plant projects with the approval of EEHC's Board of Directors and according to their planned time schedules.
- 5 Conducting research and studies within the scope of the Company's activities.
- 6 Carrying out any other activities or works related to, or complementing, the Company's objective.

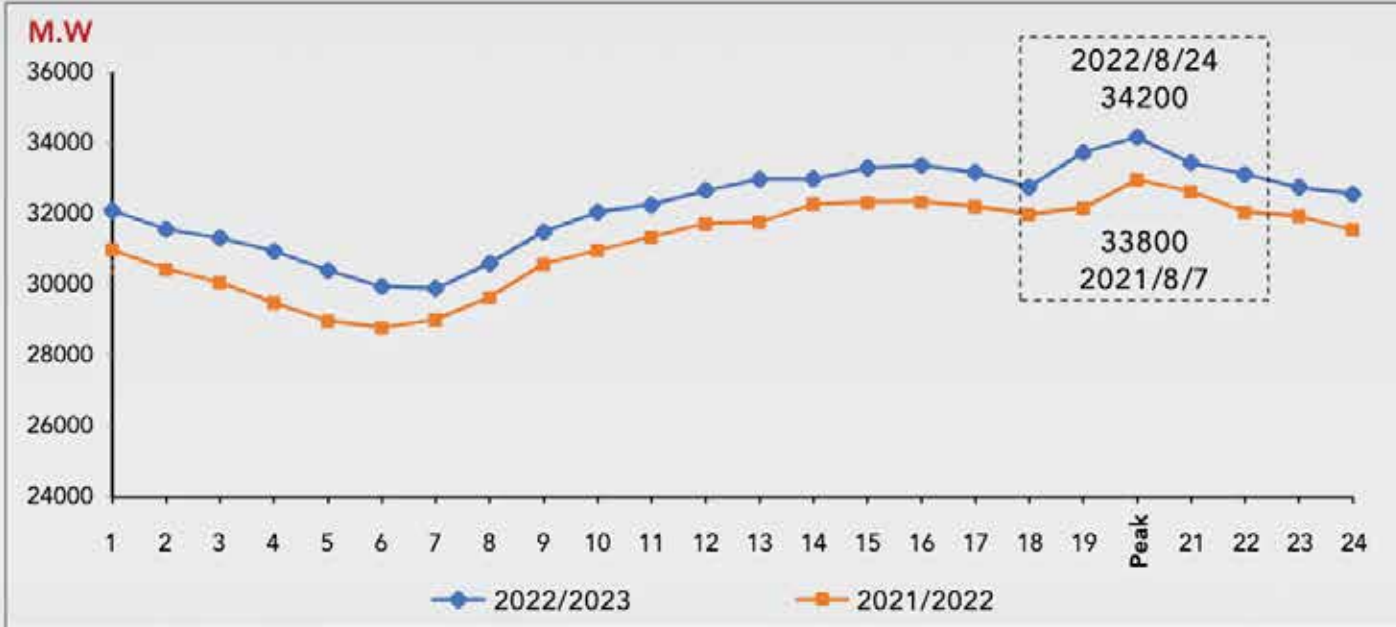




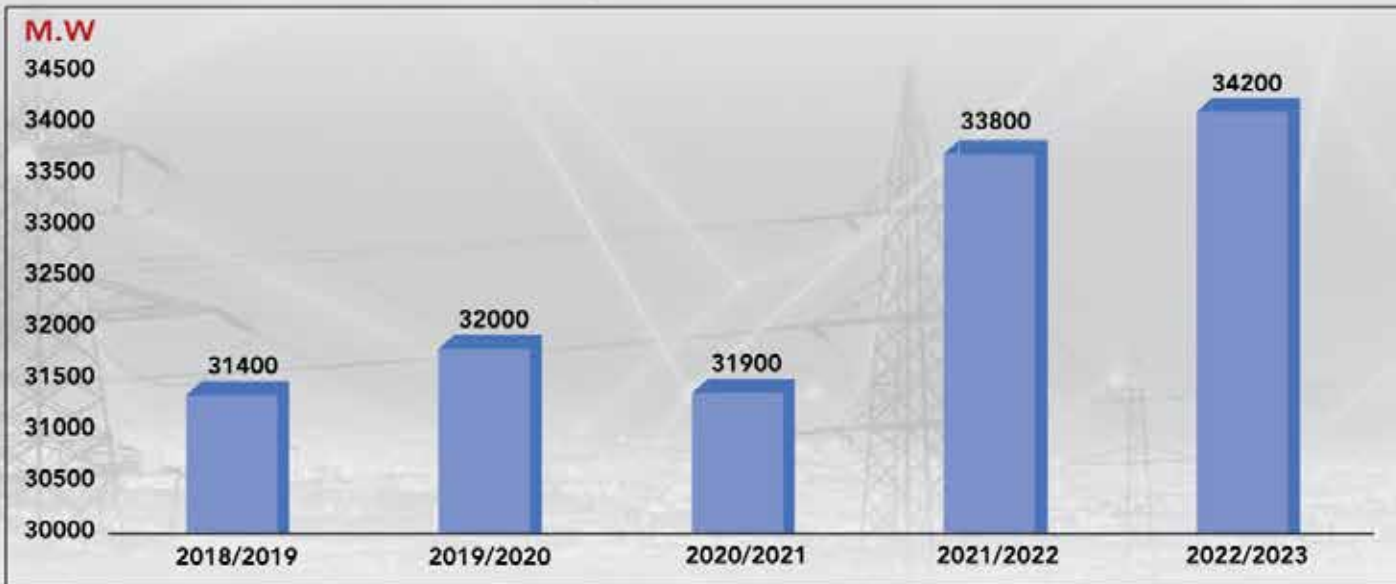
## Peak Load

Description	2021/2022	2022/2023	Growth Rate
Peak Load (MW)	33800	34200	1.2%

### Peak-Load Day Curve



### Development in Peak Load





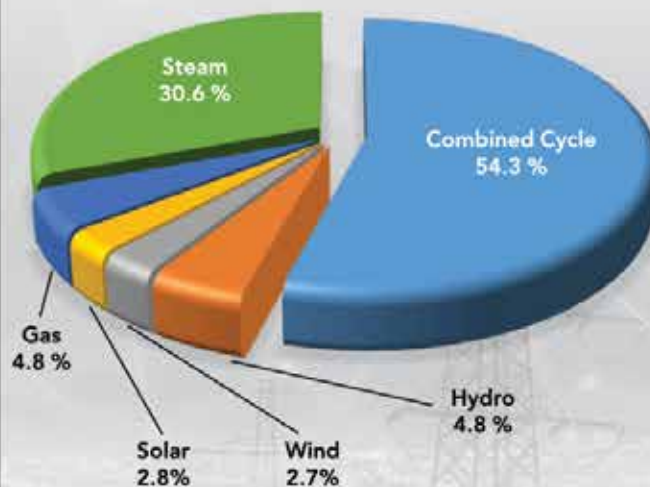


## Installed Generation Capacities in 30/6/2023

Description	2021/2022	2022/2023	Variation %
Installed Generation Capacity (MW)	59866	59442.18	(0.7)

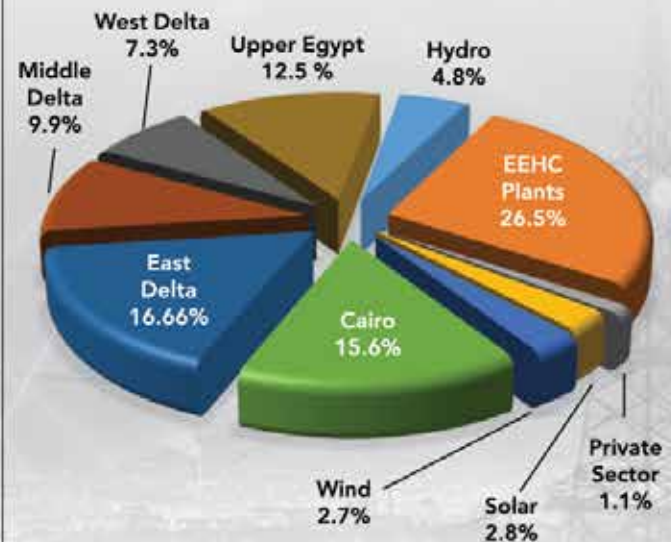
Type	Co.	Cairo	East Delta	Middle Delta	West Delta	Upper Egypt	Hydro Power	EEHC Plants			Private Sector	Renewables		Total
								Sidi krir 3 - 4	Suez Gulf	Siemens		Solar	Wind	
Gas		635	1848.5	336	24.3	0	0	0	0	0	0	0	0	2843.8
Steam		3970	3856	420	3431	4454	0	682.5	682.5	0	682.5	0	0	18178.5
Combined Cycle		4668.8	4200	5107	906.48	3000	0	0	0	14400	0	0	0	32281.87
Hydro		0	0	0	0	0	2832	0	0	0	0	0	0	2832
Renewables	Solar	0	0	0	0	0	0	0	0	0	0	1632.3	0	1632.3
	Wind	0	0	0	0	0	0	0	0	0	0	0	1674	1674
Total (MW)		9273.8	9904.5	5863	4361.75	7454	2832	682.5	682.5	14400	682.5	1674	1632.3	59442.18

Installed Capacity by Generation Type (%) (2022 / 2023)



Total Installed Capacity = 59442.18 MW

Installed Capacity by Company (%) (2022 / 2023)



Total Installed Capacity = 59442.18 MW



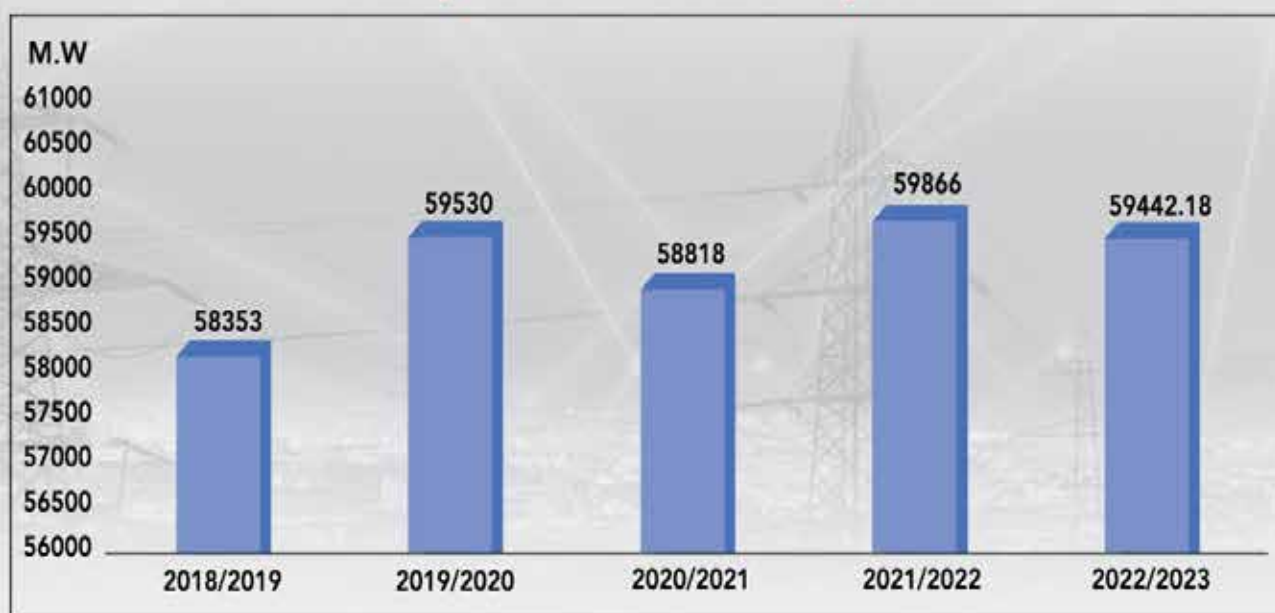
### Development in Installed Generation Capacities by Generation Type (MW)

Description		2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Gas		4055	4055	3343	2843	2843.8
Steam		16749	17179	17179	18479	18178.5
Combined Cycle		32470	32448	32448	32447	23281.87
Hydro		2832	2832	2832	2832	2831.7
New & Renewables	Solar	1120	1631	1631	1631	1674
	Wind	1127	1385	1385	1633	1632.3
Total		58353	59530	58818	59866	59442.18

• **During the year 2022/2023:**

- EEHC’s plants include: Siemens’ plants, Sidi-Krir 3 & 4, and Gulf of Suez.
- Sidi-Krir 3 & 4 power plant was separated from the public sector’s plants on 27/1/2022.
- Suez Gulf power plant was separated from the public sector’s plants on 13/2/2023.

### Development in Installed Capacities







## Installed Capacities of Power Plants in (30/6/2023) <sup>(1)</sup>

Co.	Station	No. of Units	Installed Capacity (MW)	Actual Capacity (MW)	Type of Primary Fuel	Connected to Network	Commissioning Date
Cairo	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	1994-2011
	Cairo West (9th) (St)	1x650	650	650	N.G -H.F.O.	2021	2021
	Cairo South <sup>(2)</sup> (CC)	1x110 + 1x55	-	-	-	-	-
	Cairo North (CC)	4x250 + 2x250	1500	1500	N.G -L.F.O.	2004-05-06-07	2004-06-08
	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	918.7	N.G -L.F.O.	2015-2018	2015-19
	North Giza (CC)	6x250 + 3x250	2250	2250	N.G -L.F.O.	2014-2015	2014-15
	<b>Total</b>			<b>9273.8</b>	<b>9198.7</b>		
East Delta	Ataqa <sup>(3)</sup> (St)	2x300	600	600	N.G -H.F.O.	1976-83-86	1985-88-89
	Abu Sultan (St)	4x150	600	600	N.G -H.F.O.-L.F.O	1979-81-84	1983-84-86
	New Shabab (CC)	8x125 + 2x250	1500	1500	N.G -L.F.O.	2011-17-18	2011-2018
	Al-Arish (St)	2x33	66	66	N.G -H.F.O.	1993	1995-1996
	Oyoun Mousa (St)	2x320	640	640	N.G -H.F.O.	1997	2001
	New Damietta <sup>(4)</sup> (G)	2x125	250	250	N.G -L.F.O.	2011	2011
	Al-Arish <sup>(4)</sup> (G)	2x125	250	250	N.G.	2023	2023
	West Damietta (CC)	4x125 + 1x250	750	750	N.G -L.F.O.	2012-13-18	2012-13-18
	Damietta (CC)	6x132 + 3x136	1200	1164	N.G -L.F.O.	1989-1992	1989-1993
	West Damietta Ext. (CC)	4x125 + 1x250	750	750	N.G -L.F.O.	2015-2018	2016-2018
	Masaeed (G)	2x24.3	48.5	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 -L.F.O.	2015	2015
	Port Said Ext. <sup>(5)</sup> (G)	2x42	84	-	N.G -L.F.O.	2015	2017
	Hurghada Ext. (G)	6x48	288	288	N.G	2015	2017
	Sharm El-Sheikh Ext. <sup>(5)</sup> (G)	6x48	288	144	N.G -L.F.O.	2015	2017
<b>Total<sup>(3)</sup></b>			<b>9904.5</b>	<b>9622</b>			

(St): Steam Unit

(G): Gas Unit

(CC): Combined Cycle Unit





Co.	Station	No. of Units	Installed Capacity (MW)	Actual Capacity (MW)	Type of Primary Fuel	Connected to Network	Commissioning Date
Middle Delta	Talkha	(CC) 8x24.7+2x45.9	290	236	N.G	1978-79-88	1979-80-89
	Talkha 210	(St) 2x210	420	360	N.G -H.F.O.	1992-1994	1993-1995
	Talkha 750	(CC) 2x250+1x250	750	750	N.G	2006-2010	2006-2010
	Nubaria	(CC) 6x250+3x250	2250	2250	N.G -L.F.O.	2005-06-09-10	2005-06-10
	Mahmoudeya	(CC) 8x25+2x58.5	317	268	N.G -L.F.O.	1982-1994	1983-1995
	New Mahmoudeya	(G) 2x168	336	336	N.G -L.F.O.	2015	2016
	El-Atf	(CC) 2x250+1x250	750	750	N.G -L.F.O.	2009-2010	2009- 2010
	Banha	(CC) 2x250+1x250	750	750	N.G -L.F.O.	2013-2014	2014-2015
	<b>Total</b>		<b>5863</b>	<b>5700</b>			
West Delta	Kafr El-Dawwar	(St) 2x110	220	170	N.G -H.F.O.	1984-1985	1984-1986
	Damanhour Ext.	(St) 1x300	300	300	N.G -H.F.O.	1990	1992
	Damanhour	(CC) 4x24.62+1x58	156.48	130	N.G -H.F.O.	1984-1994	1985-1995
	New Abu-Qir	(St) 2x650	1300	1300	N.G -H.F.O.	2012	2012-2013
	Abu-Qir	(St) 4x150+1x311	911	780	N.G -H.F.O.	1982-83-90	1983-84-91
	Abu-Qir	(G) 1x24.3	24.3	23	L.F.O.	1982	1983
	Sidi-Krir 1&2	(St) 2x320	640	640	N.G -H.F.O.	1998-1999	1999-2000
	Sidi-Krir	(CC) 2x250+1x250	750	750	N.G -L.F.O.	2009-2010	2009-1910
	Matrouh	(St) 2x30	60	60	N.G.	1989	1990
	<b>Total</b>		<b>4361,75</b>	<b>4153</b>			
Upper Egypt	Walideya	(St) 2x300	600	600	H.F.O-L.F.O	1992-1997	1992-1997
	Kuriemat	(St) 2x627	1254	1254	N.G-H.F.O.	1997-1998	1997-1998
	Kuriemat 1	(CC) 2x250+1x250	750	750	N.G	2006-07-08	2007-2009
	Kuriemat 2	(CC) 2x250+1x250	750	750	N.G	2008-2010	2009-2011
	West Assiut	(CC) 8x125+2x250	1500	1500	N.G-L.F.O.	2015-2018	2015-19-20
	South Helwan	(ST) 3x650	1950	1950	N.G-H.F.O.	2018-2019	2019
	New Assiut-Walideya	(G) 1x650	650	650	N.G-H.F.O.	2021	2022
	<b>Total <sup>(5)</sup></b>		<b>7454</b>	<b>7454</b>			
EEHC Plants	Burullus	(CC) 8x400+4x400	4800	4800	N.G	2016-17-18	2017-2018
	Beni-Suef	(CC) 8x400+4x400	4800	4800	N.G	2016-17-18	2017-2018
	New Administrative Capital	(CC) 8x400+4x400	4800	4800	N.G	2016-17-18	2017-2018
	Sidi-Krir 3&4	(St) 2x341.25	682.5	682.5	N.G -H.E.O.	2001	2002
	Suez Gulf <sup>(6)</sup>	(St) 2x341.25	682.5	682.5	N.G -H.E.O.	2002	2003
	<b>Total</b>		<b>15765</b>	<b>15765</b>			

(St): Steam Unit

(G): Gas Unit

(CC): Combined Cycle Unit





Co.	Station		No. of Units	Installed Capacity (MW)	Actual Capacity (MW)	Type of Primary Fuel	Connected to Network	Commissioning Date
New & Renewable	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	2 x 290	580	580	Wind	2015-16-18	2016-18-19
	Ras Gharib (Shuquiiir)	Wind	125 x 2.1	262.5	262.5	Wind	2019	2019
	Lakela (Pr.Sector)	Wind	96x2.6	249.6	249.6	Wind	2021	2021
	Kuriemat Solar/Th.	Solar/Th	1x70+1x50 + 1x20	140	140	N.G/ Solar	2010	2011
	Zaafarana <sup>(7)</sup>	PV	1x43	43	43	Solar	2022	2022
	Benban (Pr. Sector)	PV	27x50+1x30+ 3x20+1x25	1465	1465	Solar	2017-18-19	2018-2019
	Kom Ombo		1x26	26	26	Solar	2020	2020
<b>Total</b>				<b>3306</b>	<b>3306</b>			
Private Sector	East Port-Said	(St)	2x341.25	682.5	682.5	N.G -H.E.O.	2002	2003
	<b>Total</b>				<b>682.5</b>	<b>682.5</b>		
Hydro plants	High Dam		12x175	2100	2100	Hydro	1967	1967
	Aswan I		7x40	280	280	Hydro	1960	1960
	Aswan II		4x67.5	270	270	Hydro	1985	1985-86
	Esna		6x14.28	86	86	Hydro	1993	1993
	Naga Hamadi		4x16	64	64	Hydro	2008	2008
	Assiut		4x8	32	32	Hydro	2018	2018
	<b>Total</b>				<b>2832</b>	<b>2832</b>		
<b>Total Unified Grid</b>				<b>59442.18</b>	<b>58713.25</b>			

(St): Steam Unit

(G): Gas Unit

(CC): Combined Cycle Unit

(1) In addition to 216.2 MW unconnected and reserve units.

(2) South Cairo Combined Cycle Power Plant with a capacity of (1x110 + 1x55 MW) was scrapped on 28/8/2022.

(3) A number of (2) units at Ataqqa Steam Power Plant with a capacity of (2x150 MW) have been scrapped.

(4) A number of (2) units were dismantled at New Damietta Gas Power Plant with a capacity of 2x125 MW and were transferred and installed at Al-Arish Gas Power Plant, connected to the Grid in January and March 2023, for which the reliability tests were conducted on 15/3/2023 for 1st gas unit and 27/3/2023 for the 2<sup>nd</sup> gas unit.

(5) Renting some LM6000 unit engines to an American company in Port-Said and part of Sharm El- Sheikh in East Delta Electricity Production Company, which were decommissioned due to the entry into operation of Siemens Mega Projects, to get the benefit of injecting foreign currency to the Company.

(6) The ownership of Suez Gulf Power Plant (682.5 MW) was transferred from the private sector to EEHC's power plants in February 2023.

(7) Zafarana 43 MW Solar Power Plant was put into commercial operation in 2022.

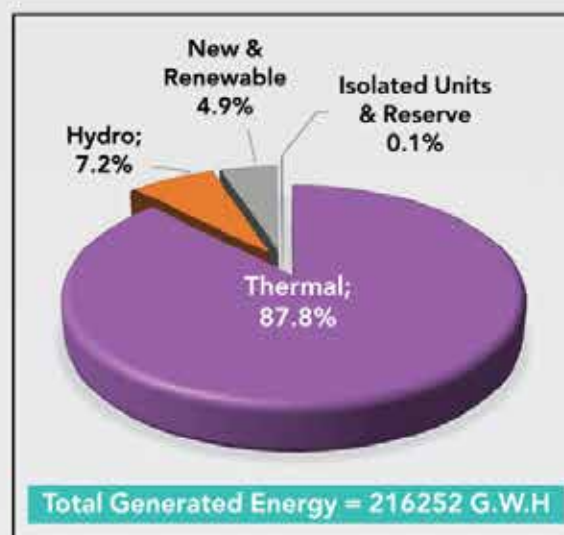




## Generated and Purchased Energy\*

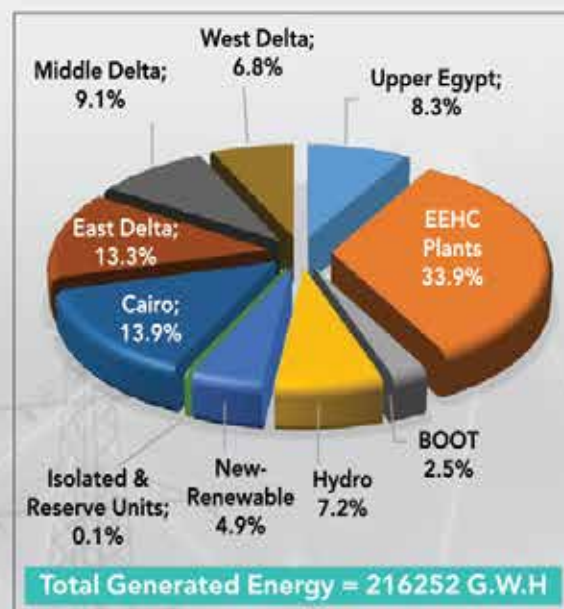
### By Generation Type (GWh)

Type		2021/2022	2022/2023	Variation %
Steam	Subsidiaries	48969	41322	(15.1)
	EEHC's Plants	280	660	135.7
	Private Sector	8890	5399	(39.3)
Gas	Subsidiaries	3578	2377	(33.6)
Combined Cycle	Subsidiaries	72815	67629	(7.1)
	Burullus, New Administrative Capital, Beni-Suef	54615	72590	32.9
Total Thermal*		188867	189977.845	0.6
Hydro		14646	15458	5.5
New & Renewable	Wind	5784	5665	(2.1)
	Solar	4753	4977	4.7
Total Grid		214051.157	216077	0.95
Isolated Units & Reserve		147	163	10.88
Purchased from Industrial Enterprises		23	12	(47.83)
Grand Total		214220	216252	0.95



### By Production Company (G Wh)

Company		2021/2022	2022/2023	Variation %
Cairo		32560	30273	(7.02)
East Delta		31323	28685	(8.42)
Middle Delta		22737	19777	(13.02)
West Delta		15229	14674	(3.64)
Upper Egypt		23233	17919	(22.87)
EEHC Plants	Burullus-Beni Suef-New Capital	54615	72590	32.91
	Suez Gulf *	--	25	--
	Sidi-Krir 3&4 *	280	635	126.79
Hydro plants		14646	15458	5.5
New & Renewable		10537	10641.162	0.99
Private Sector		8890	5399	(39.3)
Total Grid		214051.157	216077	0.95
Isolated Units & Reserve		147	163	10.88
Purchased from IPP's		23	12	(47.83)
Grand Total**		214220	216252	0.95



\* Including Commissioning tests, private sector, unconnected and reserve units, and purchased from industrial companies.

\* Generated energy at Suez Gulf P.P. with a capacity of 25 GWh after being transferred to EEHC in February 2023 until the end of FY 2022/2023.

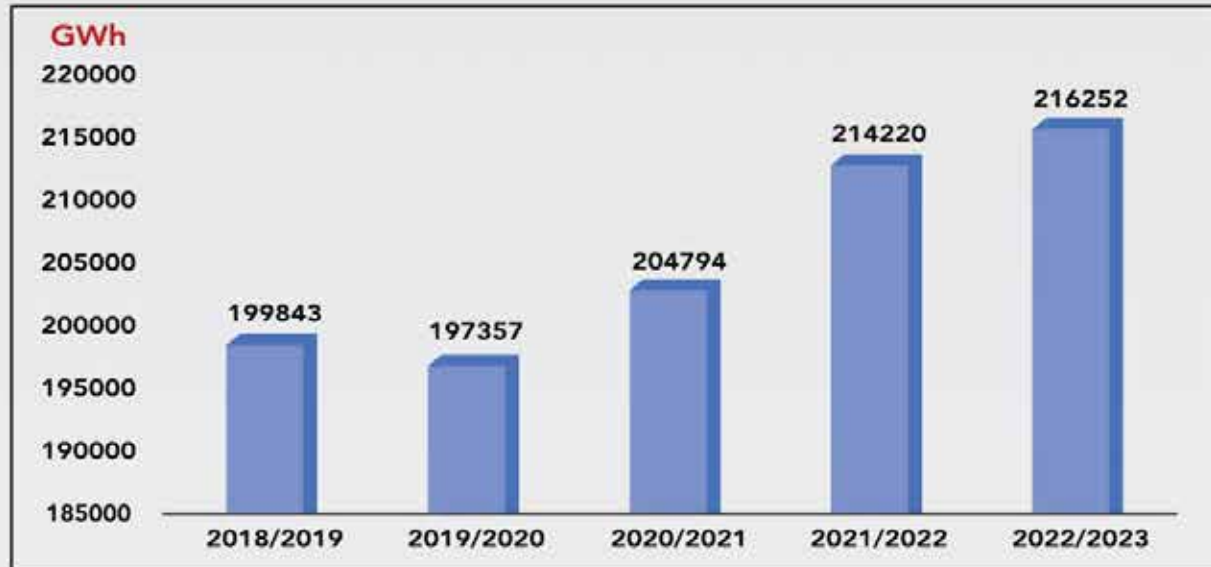
\* Generated energy at Sidi-Krir 3&4 with a capacity of 280 GWh after being transferred to EEHC in January 2022 until the end of FY 2021/2022.





## Development in Generated and Purchased Energy

Description	2021/2022	2022/2023	Growth Rate%
Energy Generated & Purchased (GWh)	214220	216252	0.95%



\* Including Commissioning tests, private sector, unconnected and reserve units, and energy purchased from industrial companies.







## Variant Statistics of Power Plants 2022/2023

Co.	Station	Gross Gen. GWh	Net Gen. GWh	Net/Gross%	TOTAL fuel KToe	Fuel consump. gm/kwh	Thermal EFF. %	Peak load MW	load Factor %	Cap. factor%	AV. Factor%
Cairo	Shoubra El-Kheima	5117.57	4854.13	5.15	1264.36	247.06	35.51	1105	52.89	48.08	90.12
	Shoubra - Gas	0.07	0.07	0	0.05	647.24	13.56	23	0.04	0.04	96.68
	Cairo West (5&6)	763.8	723.71	5.25	174.1	227.99	38.48	554	15.75	13.21	93.72
	Cairo West (7&8)	1654.8	1529.96	7.54	360.98	218.15	40.22	563	33.53	26.99	92.31
	Cairo West (9)	3092.3	2973.81	3.83	648.34	209.66	41.85	667	52.97	54.31	75.15
	Cairo South - CC	0	-0.70	0	0	0	0	0	0	0	0
	Cairo North -CC	7690.9	7537.22	2	1231.33	160.10	54.8	1349	65.09	58.54	95.54
	Tibbeen	1935	1783.68	7.82	409.06	211.39	41.51	627	35.23	31.56	92.00
	6 October	217.2	204.32	5.92	66.8	307.56	28.53	476	5.21	4.13	96.78
	6 October Ext.	3358.5	3265.24	2.78	611.52	182.08	48.19	639	60.05	41.73	97.24
	Giza North	6442.7	6298.9	2.23	1082.2	167.97	52.23	2099	35.04	32.69	87.41
<b>Total</b>	<b>30273</b>	<b>29170.36</b>	<b>3.64</b>	<b>5848.79</b>	<b>193.2</b>	<b>45.41</b>	<b>6300</b>	<b>54.86</b>	<b>37.35</b>	<b>90.64</b>	
East Delta	Ataqa - Steam	200.29	178.16	11.05	56.62	282.69	31.04	125.0	18.29	3.08	95.45
	Abu Sultan	1475	1331.47	9.73	387.2	262.51	33.42	476.8	35.32	28.07	82.08
	New Shabab - CC	8764.2	8552.45	2.42	1590.39	181.46	48.35	1417.7	70.58	66.71	92.01
	Al-Arish - Steam	367.5	342.69	6.75	99.81	271.6	32.30	57.0	73.61	63.57	80.44
	Oyoun Moussa -Steam	2052.5	1940.37	5.46	449.06	218.78	40.10	592.0	39.58	36.61	95.68
	New Damietta - Gas	68.44	65.68	4.03	19.06	278.45	31.51	248.58	3.14	2.08	99.92
	Al-Arish - Gas	275.1	270.94	1.52	75.01	272.65	32.18	225.0	28.19	25.37	100.0
	West Damietta 1 - CC	959.71	924.07	3.71	173.34	180.62	48.58	519.08	21.11	14.61	92.76
	Damietta - C.C	3358.9	3304.37	2.41	668.8	197.52	44.42	1032.0	37.46	33.21	98.11
	West Damietta 2 - CC	2607.8	2531.82	2.91	644.64	178.94	49.03	682.87	43.60	39.70	98.50
	El Massaeed - Gas	0	-0.05	0	0.01	0	0	0	0	0	100.0
	Ain Sokhna	2998.2	2882.58	3.86	632.99	211.12	41.56	1065.0	32.14	26.33	91.84
	Suez - Thermal	3714.5	3586.69	3.44	807.58	217.41	40.36	651.04	65.14	65.24	83.65
	Ataqa (Gas)	149.24	145.42	2.56	38.78	259.87	33.76	618.38	2.76	2.66	100.0
	Port Said Ext. - Gas	0.99	0.60	39.39	0.23	231.51	37.90	65.0	0.17	0.23	100.0
	Hurghada Ext. - Gas	1185.4	1171.68	1.16	289.63	244.33	35.91	237.0	57.10	46.99	94.86
Sharm El-Sheikh Ext.	480.1	472.83	1.52	118.64	247.11	35.51	232.0	23.63	23.94	71.73	
<b>Total</b>	<b>28685</b>	<b>27701.8</b>	<b>3.43</b>	<b>5873.79</b>	<b>204.77</b>	<b>42.85</b>	<b>5537</b>	<b>59.15</b>	<b>33.09</b>	<b>93.12</b>	
Middle Delta	Talkha - CC	0	-2.59	0	0.01	0	0	0	0	0	97.97
	Talkha 210	13.53	8	39.14	3.54	261.78	33.52	150.00	1.03	0.43	98.73
	Talkha 750 CC	4061.8	3979.10	2.04	642.18	158.10	55.50	756.98	61.26	61.83	87.65
	Nubareya (1&2) CC	4422.9	4322.09	2.28	747.61	169.03	51.91	1417.92	35.61	33.66	94.15
	Nubareya (3) CC	3462.7	3380.34	2.38	563.50	162.73	53.92	846.00	46.73	52.71	97.91
	Mahmoudeya - CC	1.09	-20.97	2023.71	0.47	428.21	20.49	97.00	0.13	0.05	99.82
	New Mahmoudeya	0.83	-1.78	315.01	0.28	333.41	26.32	151.00	0.06	0.03	99.77
	El-Atf - CC	4590.3	4485.94	2.27	742.32	161.71	54.26	783.70	66.87	69.88	96.10
	Banha - CC	3224	3156.84	2.09	516.91	160.33	54.73	786.67	46.79	49.08	92.63
<b>Total</b>	<b>19777</b>	<b>19307</b>	<b>2.38</b>	<b>3216.81</b>	<b>162.66</b>	<b>53.94</b>	<b>4312.54</b>	<b>52.36</b>	<b>39.61</b>	<b>94.86</b>	





Co.	Station	Gross Gen. GWh	Net Gen. GWh	Net/Gross%	TOTAL fuel KToe	Fuel consump. gm/kwh	Thermal EFF. %	Peak load MW	load Factor %	Cap. factor%	AV. Factor%
West Delta	Kafr El-Dawar -Steam	0	-7.88	0	0	0	0	0	0	0	100
	Damanhour Ext. - Steam	1799.75	1742.17	3.20	410.96	228.34	38.42	300.0	68.49	68.49	89.4
	Damanhour - CC	0	-3.01	0	0	0	0	0	0	0	100
	New Abu Qir - Steam	5078.6	4872.55	4.06	1095.91	215.79	40.66	1185.368	48.91	44.6	98
	Abu Qir (1-4) - Steam	272.06	234.07	13.96	71.26	261.92	33.49	220	14.12	6.47	98.93
	Abu-Qir (5)	0	-7.88	0	0	0	0	0	0	0	0
	Abu-Qir - Gas	0	0	0	0	0	0	0	0	0	100
	Sidi Krir 1&2 - Steam	2262.4	2151.03	4.92	524.3	231.73	37.86	581	44.46	40.36	84.49
	Sidi Krir - CC	4813.9	4681.27	2.76	782.56	162.56	53.97	750	73.28	73.28	95.3
	Matrouh - Steam	447.11	418.14	6.48	123.94	277.19	31.65	56.50	90.35	85.08	95.67
<b>Total</b>	<b>14674</b>	<b>14080.5</b>	<b>4.04</b>	<b>3008.89</b>	<b>205.05</b>	<b>42.79</b>	<b>2775.0</b>	<b>60.37</b>	<b>40.34</b>	<b>87.96</b>	
Upper Egypt	Walideya -Steam	2078.5	1993.96	4.07	477.63	229.79	38.18	540	43.94	39.55	87.87
	Kuriemat - Steam	865.01	825.01	4.64	190.69	220.41	39.81	629	15.7	7.88	97.97
	Kuriemat 1 - CC	1391.2	1350.29	2.94	221.54	159.24	55.10	706	22.5	21.18	69.20
	Kuriemat 2 - CC	3503.9	3427.74	2.17	548.52	156.55	56.05	793	50.45	53.34	96.77
	West Assiut - CC	4946.8	4769.44	3.58	895.05	180.94	48.49	1108	50.97	37.65	98.04
	South Helwan	3328.8	3204.80	3.73	677.96	203.67	43.08	1362	27.90	19.49	87.13
	New Assiut Walidya	1804.6	1728.82	4.2	383.80	212.68	41.26	653	31.55	31.70	79.72
	<b>Total</b>	<b>17919</b>	<b>17300</b>	<b>3.45</b>	<b>3395.2</b>	<b>189.47</b>	<b>46.31</b>	<b>4455</b>	<b>45.92</b>	<b>27.45</b>	<b>89.73</b>
EEHC Plants	Burullus - CC	25922.7	25185.1	2.85	3864.73	149.09	58.85	4825.59	61.33	61.66	96.01
	Beni Suef - CC	23564.2	22884.63	2.88	3519.04	149.34	58.75	4132.0	65.11	56.05	91.49
	New Administrative Capital - CC	23103.5	22435.21	2.89	3482.41	150.73	58.21	4609.0	57.23	54.92	93.75
	Total Siemens	72590	70504.9	2.87	10866.18	149.69	58.61	12019	68.95	57.55	93.75
	Sidi Krir (3&4) Steam	635.31	573.93	9.66	133.67	210.40	41.70	682.50	10.63	10.63	87.92
	Suez Gulf - Steam *	24.86	15.14	39.09	5.88	236.59	37.08	693	0.41	1.25	100
	<b>Total</b>	<b>73250.66</b>	<b>71094</b>	<b>2.94</b>	<b>11005.74</b>	<b>150.25</b>	<b>58.41</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Private Sector	Suez Gulf *	2124.5	2004	5.68	454.13	213.76	41.05	682.5	57.14	57.14	60.48
	East Port-Said	3274.7	3052	6.80	696.12	212.57	41.27	722.0	51.78	54.78	80.23
	<b>Total BOOT</b>	<b>5399.25</b>	<b>5056</b>	<b>6.36</b>	<b>1150.25</b>	<b>213.04</b>	<b>41.18</b>	<b>0</b>	<b>0</b>	<b>54.20</b>	<b>84.05</b>
<b>TOTAL THERMAL</b>		<b>189977.845</b>	<b>183709.930</b>	<b>3.3</b>	<b>33499.466</b>	<b>176.33</b>	<b>49.77</b>	<b>0</b>	<b>0</b>	<b>41</b>	<b>91.94</b>
Hydro Plants	High Dam	10916.1	10851	0.59	0	0	0	2310.	53.95	59.35	92.35
	Aswan Dam I	1690.9	1659.54	1.85	0	0	0	272.0	70.97	68.95	96.99
	Aswan Dam II	1755.4	1745	0.61	0	0	0	270.0	74.23	74.23	83.58
	New Essna	441.3	435	1.39	0	0	0	74.7	67.45	58.80	84.20
	Naga Hamadi	439.3	433	1.49	0	0	0	66.0	76.00	78.37	97.44
	Assiut	215.3	210	2.32	0	0	0	38.34	64.14	76.85	98.00
	<b>Total-Hydro</b>	<b>15458.45</b>	<b>15334.624</b>	<b>0.80</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2924.6</b>	<b>60.35</b>	<b>62.33</b>	<b>91.91</b>





Co.	Station	Gross Gen. GWh	Net Gen. GWh	Net/Gross%	TOTAL fuel KToe	Fuel consump. gm/kwh	Thermal EFF. %	Peak load MW	load Factor %	Cap. factor%	AV. Factor%
Renewable Energy	Zafarana - Wind	1109.6	1092.9	1.51	0	0	0	0	0	0	0
	Gabal El-Zeit - Wind	2348.8	2345.2	0.15	0	0	0	0	0	0	0
	Ras Gharib (Shouqir) Wind	1155.2	1154.3	0.08	0	0	0	0	0	0	0
	Lakela (Pr. Sector) Wind	1051.1	1050.1	0	0	0	0	0	0	0	0
	Kuriemat - Solar	432.931	412.851	4.63	0	0	0	0	0	0	0
	Zafarana - Solar	65.556	63.512	3.11	0	0	0	0	0	0	0
	Benban PV (Pr. Sector)	4422.863	4293.941	2.92	0	0	0	0	0	0	0
	Kom Ombo - PV	55.2	52.7	4.53	0	0	0	0	0	0	0
<b>Total Renewable</b>		<b>10641.29</b>	<b>10465.5</b>	<b>1.65</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total	Total Connected Grid	216077	209510.08	0	0	0	0	0	0	0	0
	Isolated & Reserved Plants	163	159.4	0	0	0	0	0	0	0	0
	Purchased from IPPs	12	12	0	0	0	0	0	0	0	0
	<b>Total Unified Grid</b>	<b>216252</b>	<b>209682</b>	<b>3.0</b>	<b>33500</b>	<b>176.33</b>	<b>49.77</b>	<b>34200</b>	<b>0</b>	<b>0</b>	<b>0</b>

**\* Including commissioning tests.**

\* The ownership of Suez Gulf P.P. (Private Sector) with a total capacity of 682.5 MW was transferred and added to EEHC plants on 13/2/2023

- Fuel consumption rate gm/kWh (gen.) = Quantity of fuel consumed (toe) / Quantity of energy generated (GWh)
- Average load MW = (Energy generated MWh / Number of hours)
- Load Factor % = (Average load / Maximum load during the period) × 100
- Capacity factor % = (Average load / actual capacity) × 100
- Thermal Efficiency % = {860 × 1000 / (9800 × Av. Fuel Consumption rate (gen.))} × 100
- Availability Factor % = (Operation hours' + reserve hours') / period hours' × 100



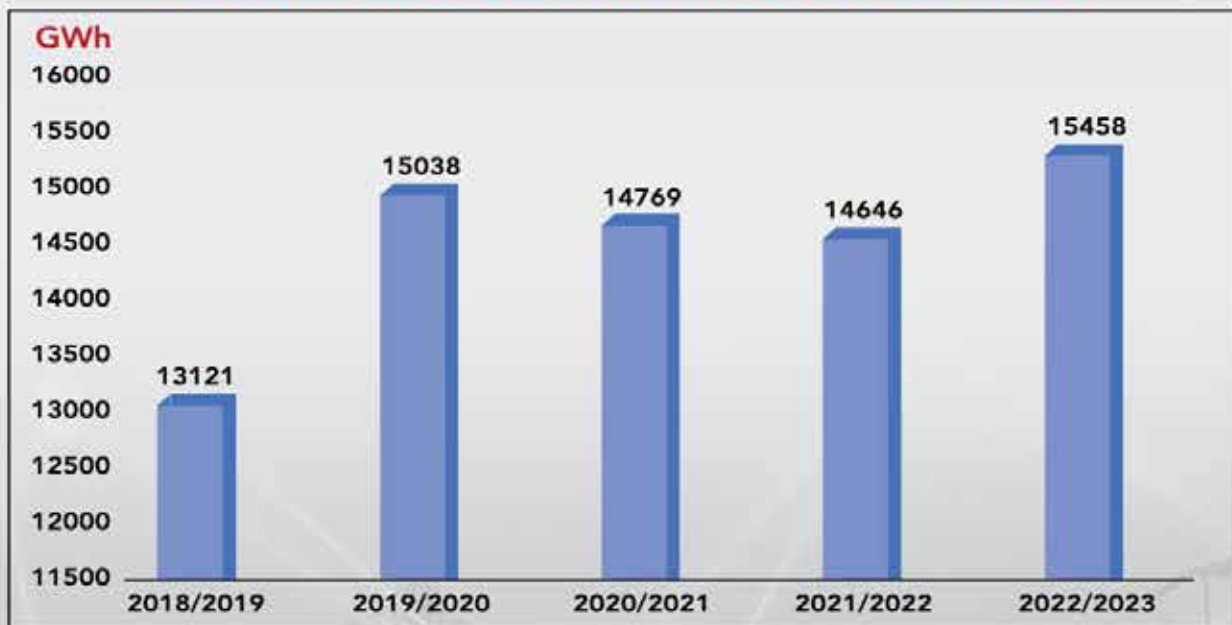




## Hydroelectric Energy

Description		High Dam	Aswan 1	Aswan 2	Essna	Naga Hammady	Assiut	2022/2023
Generated Energy	(GWh)	10916.1	1690.9	1755.4	441.3	439.3	215.3	15458
Peak Load	(MW)	2310	272	270	74.7	66	38	2925
Maximum daily generated energy	(GWh)	46	6.4	6.5	1.7	1.6	0.91	59.4
Minimum daily generated energy	(GWh)	9.7	2.24	2.5	0.17	0.68	0.05	18.007
Efficiency	(%)	85.03	84.75	89.86	84.19	85.30	80.60	

### Development in Generated Hydroelectric Energy





## Fuel



- The policy of operating the existing thermal power plants is based on considering natural gas as the primary fuel due to its evident economic and environmental advantages.
- The use of natural gas at power plants, including private sector power plants, connected to the gas grid reached 87% in 2022/2023, representing 85.8% of the total fuel consumption.

### Fuel Consumption by Type\*

Description	H.F.O.		N.G.		L.F.O. (Ordinary & Special)		Total K toe
	K tons	K toe	Million m <sup>3</sup>	K toe	K tons	K toe	
Total fuel 2021/2022	3440	3401	36518	30727	20.5	21.4	34149
Total Fuel 2022/2023	4796	4731	34142	28751	17.3	18.0	33499.466
Growth Rate%	39.4	39.1	(6.5)	(6.4)	(15.6)	(15.9)	(1.9)

toe: ton of oil equivalent

Fuel consumed in the year 2022/2023 includes:

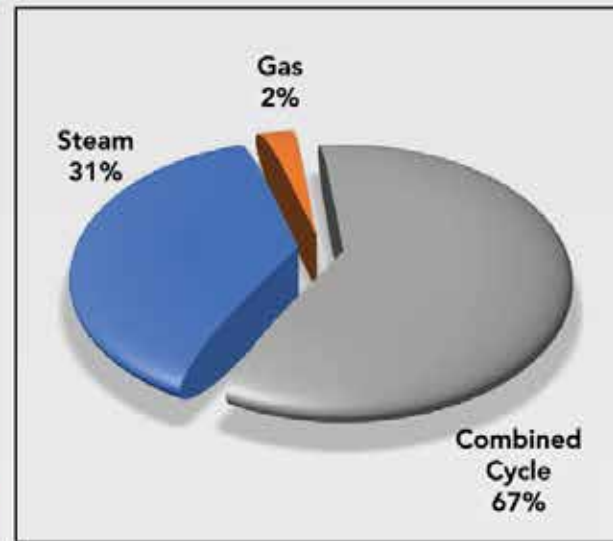
- Fuel for commissioning tests, private sector, and EEHC plants.
- Consumed fuel in private sector power plants amounts to 1380.6 million m<sup>3</sup> of natural gas and 0.08 K ton of HFO, totaling an equivalent to about 1150 K toe.
- Consumed fuel (natural gas) in EEHC power plants (Burullus, New Administrative Capital, Beni-Suef, Sidi-Krir 3&4 and Suez Gulf) amounts to 13095 million m<sup>3</sup> of natural gas, totaling an equivalent to about 11006 K toe.
- Excluding fuel consumed in unconnected and reserve plants amounting to 32.5 K toe.





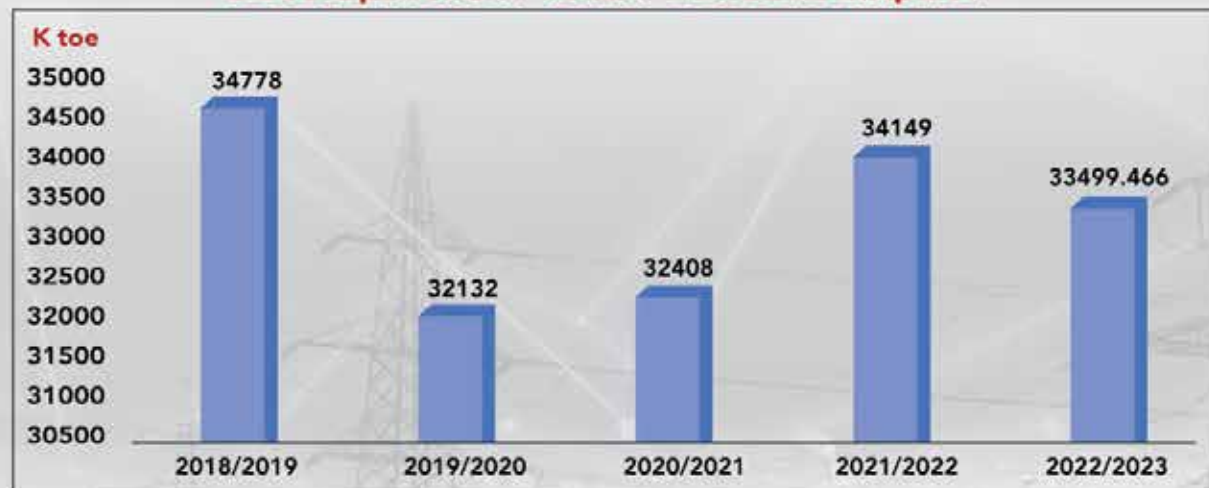
## Fuel Consumption by Generation Type (k toe)

Type		2021/2022	2022/2023	Growth Rate%
Steam (k toe)	Subsidiaries + EEH PP	10834	9389.647	(13.3)
	Private Sec.	1874	1150	(38.6)
Gas (k toe)	Subsidiaries	910	608	(33.2)
Combined Cycle (k toe)	Subsidiaries	12342	11484.901	(6.9)
	Burullus, New Administrative Capital, Beni-Suef	8189	10866	32.7
Total**		34149	33499.466	(1.9)



- \* Including fuel consumed in Sidi-Krir 3&4 P.P. amounting to 56.5 K toe after being transferred to EEHC's power plants in January 2022.
- \*\* Including fuel consumed in Suez Gulf P.P. amounting to 5.9 K toe after being transferred to EEHC's power plants in February 2023.
- \* Total fuel includes commissioning tests.

## Development in Total Fuel Consumption\*

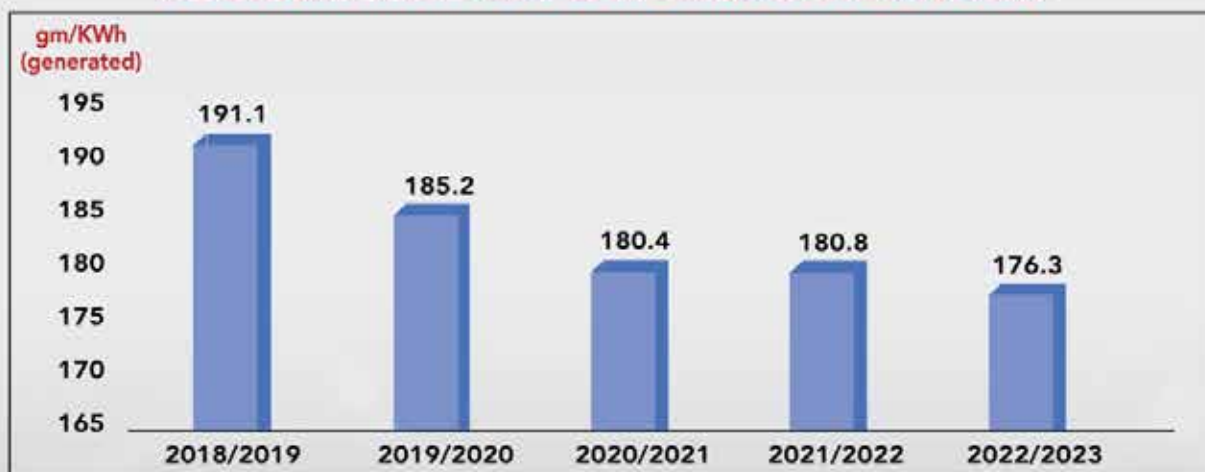




### Fuel Consumption by Companies 2022/2023



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



\* Including Private Sector and EEHC power plants, and commissioning tests.





## Unconnected and Reserve Power Plants (2022/2023)

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 216 MW, in addition to 5 MW wind farm in Hurghada.



### Installed Capacity and Energy Generated from Isolated and Reserve Plants\*

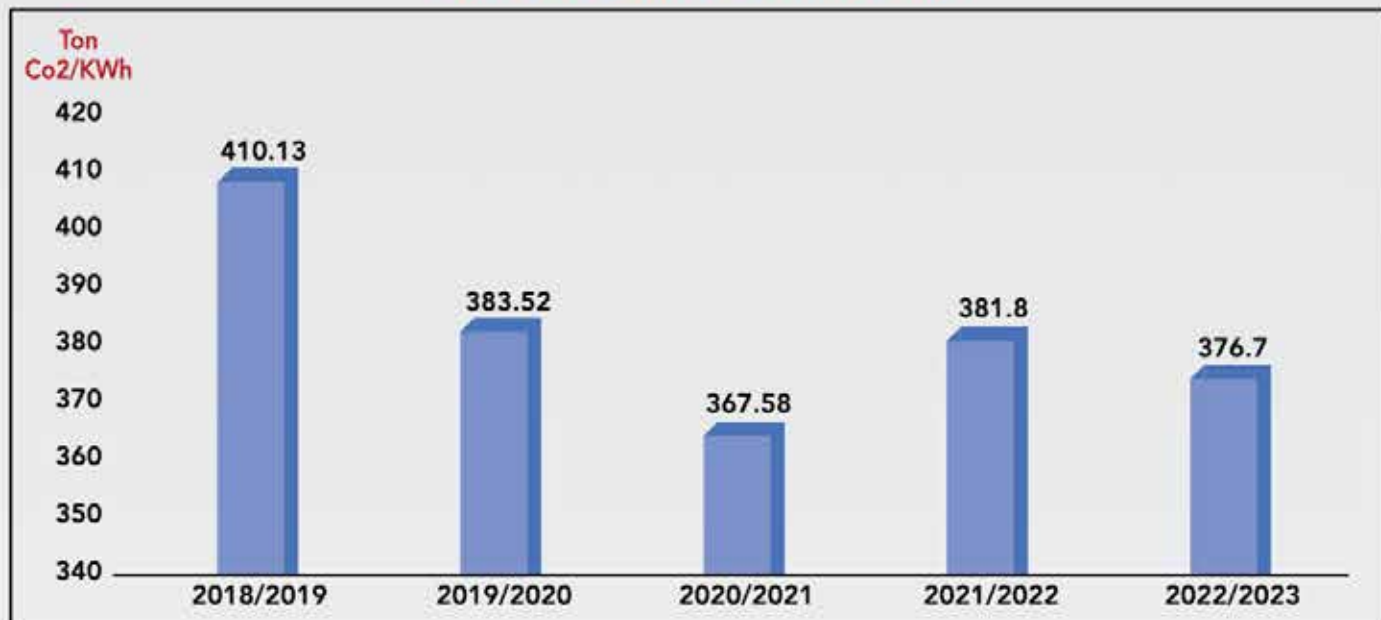
DisCo.	Type	Installed Capacity (MW)		Energy Generated (GWh)		Energy Dispatched (GWh)	
		2021/2022	2022/2023	2021/2022	2022/2023	2021/2022	2022/2023
Canal	Diesel	109.70	107.40	38.34	46.90	38.23	46.80
	Solar	14.00	14.00	8.64	7.27	8.64	7.27
Beheira	Diesel	41.11	41.11	49.40	54.00	48.2	52.20
	Solar	10.26	10.00	12.36	12.01	12.36	11.93
Middle Egypt	Diesel	43.70	34.50	32.44	35.92	31.4	34.45
	Solar	6.28	6.28	5.42	6.78	5.42	6.73
Upper Egypt	Diesel	2.94	2.94	0	0	0	0
Total	Diesel fuel	197.45	185.95	120.18	136.82	117.83	133.45
	Solar	30.54	30.28	26.42	26.06	26.42	25.93
	Diesel fuel & Solar	228.0	216.23	146.6	162.90	144.25	159.38

- Including unconnected power plants that are operated for the Company's account and for others.
- The units (4 diesel units) operate as a backup for Abou-Simbel tourist sub-station and only for emergencies and visits.



## Environmental Compliance of Thermal Plants

### Carbon Dioxide Emissions



In the year 2022/2023, the following was realized:

- 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 (SOx, NOx) in accordance with the Egyptian and international environment laws.

As a result of these efforts, the environmental indicator of thermal power plants reached 376.7 tons CO2/GWh in 2022/2023, and this is due to:

- Increasing the share of new and renewable energies (wind / solar / hydro) in the generation mix to reach 12.1% of the total energy generated in 2022/2023.
- 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 33.5%.
- The increase in the participation rate of the combined cycle generation in the production companies, including EEHC's power plants, to reach 64.8% 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, 9<sup>th</sup> Cairo West, and New Walideya).





## Emissions of Greenhouse Gases at Thermal Power Plants 2022/2023

Company	Power Plant	Capacity (MW)	Greenhouse Gases (Scope 1) (Kg of CO <sub>2</sub> equivalent)
Cairo	Shoubrah El-Kheima	1295	1545588386
	Cairo West 5&6	660	1605273588
	Cairo West 7&8	700	
	Cairo West 9	650	1866142303
	Cairo North	1500	2973446666
	Tibeen	700	2170166146
	6 <sup>th</sup> of October	600	1644239883
	6 <sup>th</sup> of October Ext.	918.7	
	Giza North	2250	2554338187
East Delta	Ataqa Steam	600	138124219
	Abu-Sultan	600	1178120150
	New Shabab Combined Cycle	1500	3852133564
	El-Arish Gas	250	181023263
	Oyoun Moussa	640	1092684091
	New Damietta	250	46395440
	West Damietta Combined Cycle	750	421354421
	West Damietta Ext.	750	1132338526
	Damietta Combined Cycle	1200	1632093455
	Ain-Sokhna	1300	1660232071
	Suez	650	1717488155
	Ataqa Gas	640	156304866
	Sharm El-Sheikh Ext.	288	286093765
	Hurghada Ext.	288	664160125
	Port-Said Ext.	84	549208
	Massaeed	48.5	19192611
El-Arish Steam	66	241938752.72	



Company	Power Plant	Capacity (MW)	Greenhouse Gases (Scope 1) (Kg of CO <sub>2</sub> equivalent)
Middle Delta	Talkha Steam	420	8466.11
	Talkha Combined Cycle	290	177452.09
	Talkha 750 MW	750	1549421226
	Banha Combined Cycle	750	1222941736.47
	Nubareya Combined Cycle	2250	2768117849.60
	Mahmoudeya Combined Cycle	317	2326557.94
	Al-Atf Combined Cycle	750	1705850283.67
	New Mahmoudeya	336	3111293.85
West Delta	Abu-Qir (1-5)	935	193760503.26
	New Abu-Qir	1300	3335371588.77
	Sidi-Krir	640	1551982099
	Damanhour Ext.	300	1191668849.55
	Matrouh	60	281869178.14
	Sidi-Krir Combined Cycle	750	1913653490.33
	Kafr-ElDawwar	220	615405.42
	Damanhour Combined Cycle	156.48	000.000
Upper Egypt	Walideya	600	1549180806
	Kuraimat Steam	1254	544531757.99
	Kuraimat Combined Cycle 1	750	1850368690.40
	Kuraimat Combined Cycle 2	750	
	West Damietta Com. Cycle	1500	2154034079.42
	South Helwan	1950	1922453744.83
New Assiut Walideya	650	1144202661.31	
EEHC	Beni-Suef	4800	6906816821.87
	Burullus	4800	7994809580.39
	New Adm. Capital	4800	8409354209.58
	Sidi-Krir 3&4	682.5	333235958
Private Sector	Suez Gulf	682.5	1112352463
	East Port-Said	682.5	1684678551.58

\* Greenhouse gas emissions Scope 1 (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O & SF<sub>6</sub>) 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".

\* Emissions are calculated according to the UK Government GHG Conversion Factors for company reporting 2022.





### 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 assist to 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 had 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 Programme 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 E&S 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, 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.

### **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:**

- 1- Permanent coordination between production companies and the National Control Center to operate the most efficient power plants, such as EEHC's plants (Burullus, New Administrative Capital, and Beni-Suef) as a first priority, then other combined cycle power plants, and then steam plants with critical pressures, with the aim of reducing the rate of fuel consumption to the minimum level.
- 2- Transferring two gas units from Damietta Power Plant to the site of Al-Arish Power Plant as an alternative to the cost of new plant purchase in Al-Arish and then it will be converted to combined cycle Plant to secure electrical supply to North Sinai Governorate if financing is secured.
- 3- Cooperating with GE to operate one of Sharm El-Sheikh LM6000 units with 5% of the volume with hydrogen as a pilot project during COP27 Climate Conference.
- 4- Cooperating with Siemens in studying the possibility of operating the gas units at Burullus Power Plant with hydrogen at a rate of 5% up to 30% in preparation for technology development in the field of hydrogen while expecting its prices to compete with gas in the future.
- 5- Transferring (20) TM2500 units from EEHC within the scope of (Cairo and upper Egypt electricity Production Companies) to the Egyptian General Petroleum Authority (EGPC) in exchange for reducing the Company's debts to the Petroleum Sector.





### Power Plant Projects

#### **Construction of 2400 MW Pump and Storage Power Project in Mount Ataqa, 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 being studied 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 start implementing the conversion of the gas units that were transferred to Al-Arish site and it was put into service in March to operate on the combined cycle system, so that the total capacity becomes 375 MW without use of additional fuel, in case that the required financing 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)**

On 26/1/2022, the Power Purchase Agreement for Sidi-Krir Power Plant 3&4 (private sector) came to an end, whereupon EEHC authorized West Delta Electricity Production Co. in the technical takeover of the Plant due to its location within the geographical scope of WDEPC that is currently in charge of the Plant operation and maintenance. All necessary measures are currently being taken by EEHC and Sidi-Krir Generating Company in preparation for signing the settlement agreement and transfer of ownership of the Plant in order to complete the process of legally transferring ownership of the Plant to the Holding Company, free of any mortgages or encumbrances.

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

On 12/2/2023, the Power Purchase Agreement for Suez Gulf Power Plant (private sector) expired and East Delta Electricity Production Co. was authorized by EEHC in the technical takeover of the Plant as it is located within the geographical scope of EDEPC that is currently conducting the operation and maintenance of the Plant. All necessary measures are currently being taken by EEHC and Suez Gulf Power SAE to ensure the due fulfilment by each party of its contractual obligations in preparation for signing the settlement agreement and transfer of ownership of the Plant in order to complete the process of legally transferring its ownership to EEHC, free of any mortgages or encumbrances.

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

All necessary measures are currently being taken by EEHC and Port Said East Power SAE to transfer the ownership of Port Said Power Plant (private sector) in accordance with the provisions of the respective Power Purchase Agreement that is due to expire on 8.7.2023



## Information about Production Companies

Company	Geographical Zone	Head Office	Capital (In million EGP)	Ratio of Capital to EEHC Investments	Address	Phone & Website
Cairo	Greater Cairo	Cairo	3399.925	8.28 %	22 Shanan St., Sabteya	02-25793054 02-25740550 www.cairoepc.com
East Delta	Governorates of Damietta, Ismaileya, Port Said, Suez, South Sinai, North Sinai, and the Red Sea	Ismaileya Governorate	7463.035	18.17 %	Shebin El-koum St. next to RCC	064-3201492 064-3205146 www.edepco.com.eg
Middle Delta	Governorates of Sharqeya, Daqahleya, Qalyoubeya (to the borders of Greater Cairo), in addition to Mahmoudeya City, and Koum Hamada in Beheira Governorate	Daqahleya Governorate	3437.250	8.37 %	Compost road, Talkha	050-2524149 045-35473804 www.mdepc.gov.eg
West Delta	Governorates of Alexandria, Matrouh, and Beheira (excluding Mahmoudeya City, and Koum Hamada)	Alexandria Governorate	1642.170	4 %	7 Riyadh St, Gleem	03-5761375 03-5744147 www.wdpc-alex.com
Upper Egypt	Governorates of Giza (excluding regions within the Greater Cairo), Fayoum, Beni-Suef, Minya, Assiut, New Valley, Sohag, Qena, Aswan, and Luxor	Giza Governorate	8412.410	20.49 %	Next to Giza Zoo	02-38781300 082-9210733 www.ueep.com
Hydro Power Plants	Affiliated hydro power plants all over the Country	Aswan Governorate	667.874	1.63 %	High Dam - West Sahara	097-3480412 097-3481974 www.hpgc.com.eg









# 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 (EETC)

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	9406.338	22.9 %	New Administrative Capital, Governmental District, Cairo	02/20541850



### Objectives of The Company:

- ① Operating the electricity transmission system in a manner that achieves efficiency, stability, and reliability.
- ② Managing and maintaining the electricity transmission network, implementing energy transmission projects on ultra-high & high voltages in an optimal economical way, and preparing studies and plans for load forecast.
- 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.
- ⑥ Coordinating with the Nuclear Power Plants Authority (NPPA) to prepare studies in accordance with the requirements of the International Atomic Energy Agency (IAEA) for interconnection with the national electricity transmission network.
- ⑦ 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.
- ⑧ Executing electrical power transmission projects on Extra high and high voltage and preparing Load forecasting studies and plans.

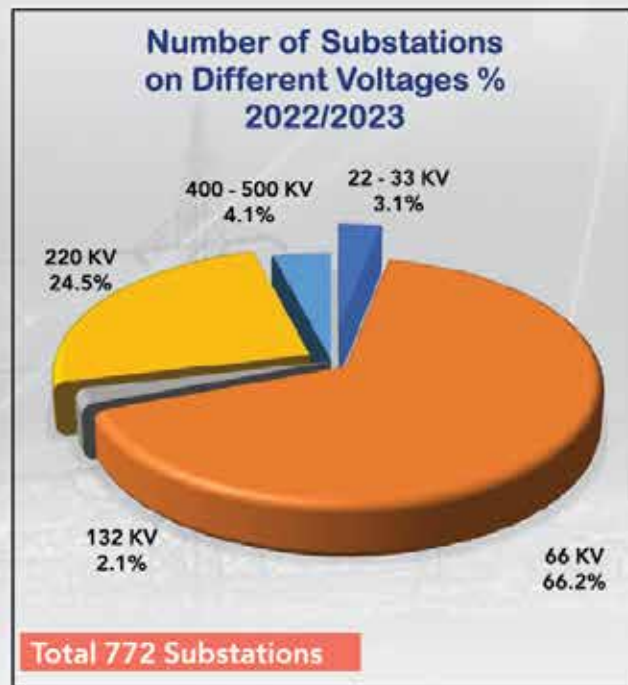
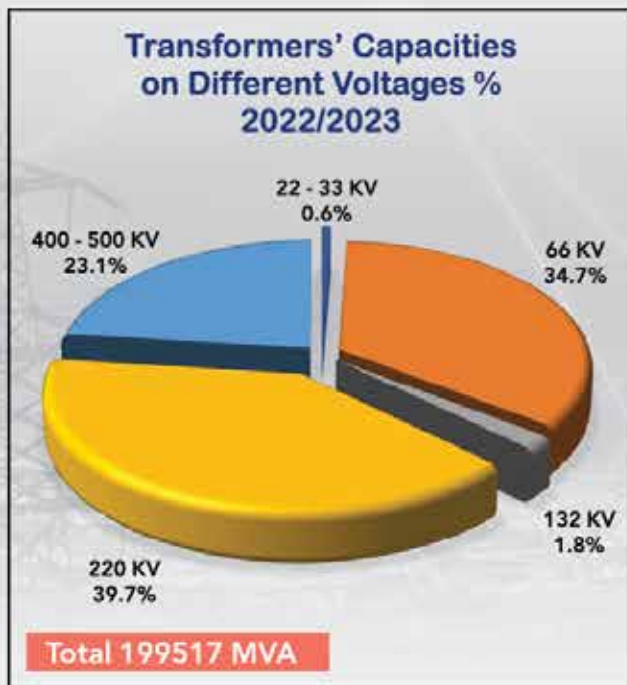


## Transmission Network Statistics (on 30/6/2022)

### Transformer Substations:

Description		2021/2022	2022/2023	Growth Rate (%)
On Extra High & High Voltages	Total Transformers' Capacity (MVA)	190310	199517	4.8
	Number of Substations	759	772	1.6
	Number of Transformers	2995	3064	2.3

Year	2021/2022			2022/2023		
	Capacity	Substations	Transformers	Capacity	Substation	Transformers
	MVA	(S.S.)	(Tr.)	MVA	(S.S.)	(Tr.)
22-33	1279	25	97	1291	24	95
66	67227	508	2149	69256	511	2192
132	3514	16	76	3524	16	74
220	75115	180	594	79270	189	620
400-500	43175	30	79	46175	32	83
<b>Total</b>	<b>190310</b>	<b>759</b>	<b>2995</b>	<b>199517</b>	<b>772</b>	<b>3064</b>



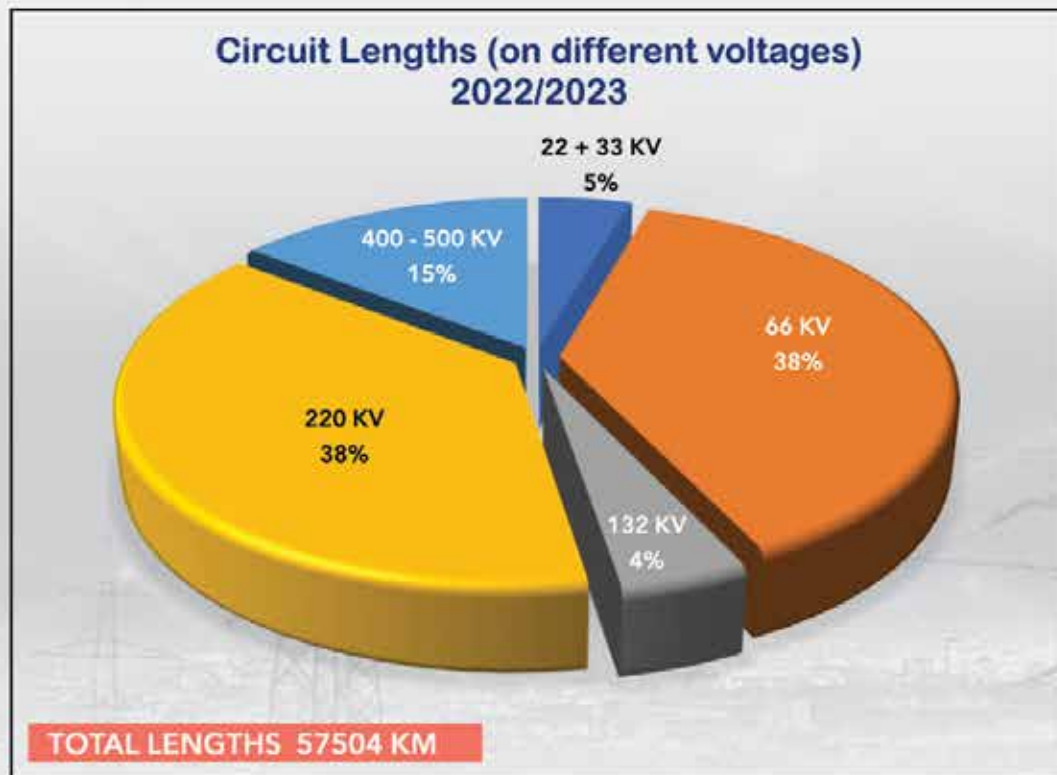




**Total Lengths of Circuits (overhead lines & ground cables) Km:**

Description		2021/2022	2022/2023	Growth Rate (%)
On Extra High & High Voltages	Total Lengths of Circuits (km.)	56465	57504	1.8

Voltage (KV)	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
22	21	21	21	1024	1024
33	1692.1	1746	1746	1785	1561
66	20466	20719	21003	21805	22112
132	2485.1	2485	2485	2559	2559
220	18589	20700	21395	21601	21912
400-500	5578.8	6285	7204	7691	8335
<b>Total (Km)</b>	<b>48832</b>	<b>51956</b>	<b>53854</b>	<b>56465</b>	<b>57504</b>



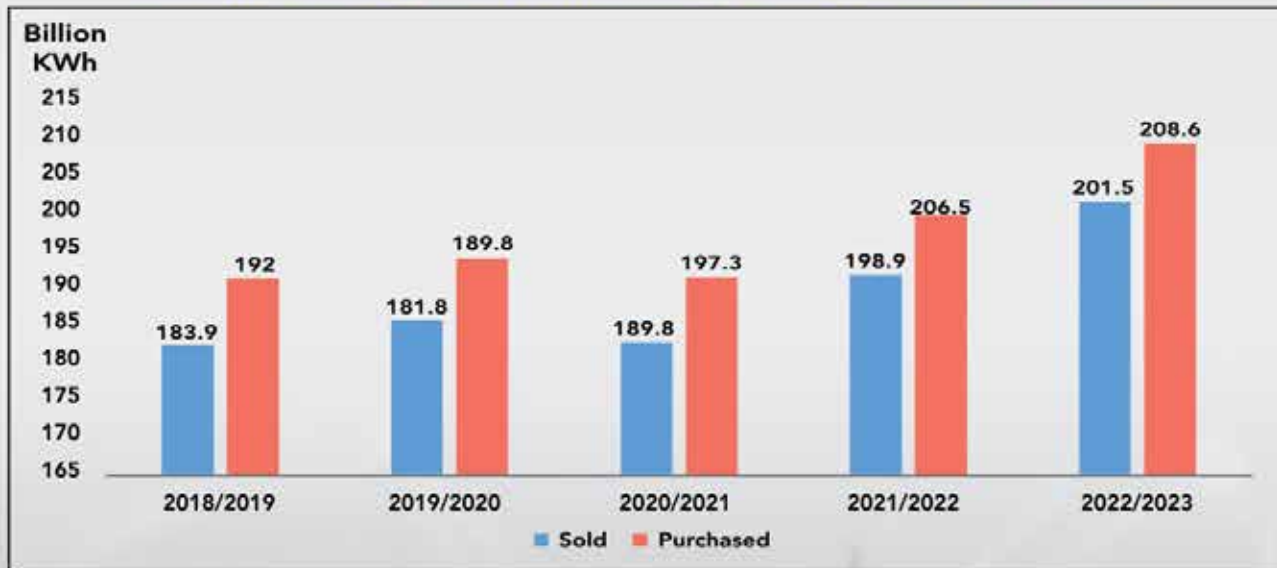


### Total Purchased and Sold Energy:

Description		2021/2022	2022/2023	Growth Rate (%)
Purchased Energy	GWh	206493	208633	1%
Sold Energy	GWh	198925	201521	1.3%

- Purchased energy includes in-kind purchases (income energy from interconnection countries).
- Energy sold by EETC in 2022/2023 includes:
  - 169678 Kwh to DisCos.
  - 31843 Kwh to the private sector (BOOT), customers, colonies, and in-kind energy exported to the interconnection countries.

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







## Electrical Interconnection and 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 global 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, and the projects to be implemented with Cyprus, Greece and Gulf Interconnection Authority, in addition to participation in regional electricity markets.

### I. Regional Interconnection with Neighboring Countries:

#### Existing Dual Interconnection:

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	364	-	-	532
Incoming & Purchased Energy (GWh)*	-	-	-	-	-

\* In addition to 95 GWh in-kind outgoing energy, and 94 GWh in-kind incoming energy during the year.

#### Incoming and Outgoing Energy





## **Development of Existing Electrical Interconnection Projects and Future Studies: Egyptian / Jordanian Interconnection (as from October 1998):**

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 to raise the current capacity of Egypt/Jordan interconnection line has been completed by the planning committee in both sides, thus allowing the possibility of energy exchange up to 2000 MW in addition to the existing 550 MW through HVAC technology.

## **Egyptian / Libyan Interconnection (as from May 1998):**

- A preliminary study was conducted to increase the capacity transmitted to the Libyan side from 240 MW at a voltage of 220 KV to 2000 MW at a voltage of 500 KV.
- The construction of Borg El-Arab/Marsa Matrouh electrical line at a voltage of 500 kV, four-conductor, two-circuit with a length of 255 km, has already been completed and is currently being operated at 220 kV to support the North Coast network, provided that it will be used to strengthen the Egyptian/Libyan interconnection line to be operated in a later stage at a voltage of 500 KV after expanding the Borg El-Arab and Marsa Matrouh substations with a voltage of 500 KV.
- Through coordination between the two sides, the necessary reinforcements were made to the Libyan network and the eastern and western regions were connected to become a unified network. Also, technical data of the two networks was exchanged between the Egyptian and Libyan sides, a static and dynamic model of the Libyan network was developed, and the required technical study was conducted, which concluded that it was possible to export the maximum possible capacity that amounts to 380 MW to the Libyan side.
- A preliminary technical and economic study was conducted to raise the capacity of the existing interconnection line up to 2000 MW at a voltage of 500 Kv. The implementation of this project is considered a first phase to link Egypt with the Arab Maghreb countries.

## **Egyptian / Sudanese Interconnection (as from April 2020):**

- Starting from 20/4/2020, the Sudanese network is fed from the Egyptian grid within the first phase of feeding, with a capacity of up to 80 MW. The completion of the second phase of electrical feeding to the Egyptian/Sudanese interconnection line is underway to reach a transmission capacity of up to 300 MW by installing a number of (2) Static Synchronous Compensators (STATCOM) in Merowe and Dongola substations in Sudan at a capacity of 150 Mvar each.

## **Egyptian / Saudi Interconnection:**

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

## **Egyptian / Jordanian / Gulf Interconnection:**

- In light of the Memorandum of Understanding (MOU) concluded between the GCC Interconnection Authority (GCCIA) on the one part and each of the National Electric Power Co. of Jordan (NEPCO) and the Egyptian Electricity Transmission Company (EETC) on the other part, and the completion of the feasibility study for the Project, the Non-Disclosure Agreement signed by EETC, GCCIA, NEPCO and the Consultant EGI (appointed by GCCIA to study the project structure) was sent to the Consultant on 1/1/2023 together with the required data, and the study is being prepared by the Consultant.

## **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 of 3000 MW up to 10000 MW.





- On 15/5/2023, an MOU was signed between EETC and Scatec ASA of Norway to commence studies for exporting clean energy from Egypt to Europe via Italy.

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

- The aim of this project is to exchange electrical capacity of 2000 MW at a voltage of 500 KV with direct current (HVDC).
- A study of different scenarios technically and economically is underway to choose the most appropriate one for implementing this project.
- In October 2021, bilateral MOUs were signed between Egypt and Cyprus and between Egypt and Greece, as well as a tripartite MOU between the three parties, and coordination is being conducted with the Greek and Cypriot parties to activate the provisions of the executed MOUs.

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

- The project aims to exchange an electric capacity of up to 3000 MW at a voltage of 500 kV with direct current (HVDC) in the first phase and is targeted to reach 6000 MW in the second phase.
- On 14/10/2021, an MOU was signed between the Egyptian and Greek sides for studying the implementation of the interconnection project.
- On 22/6/2022, an initial concept for the electrical interconnection project between Egypt and Greece (GREGY) was presented by ELICA SA for transmitting renewable Energy to Europe with a capacity of 3000 MW and a voltage of  $\pm 500$  kV with total length of (1373) km.
- Tendering procedures are being finalized for providing the consulting services required for preparing the Project feasibility study, in addition to the environmental and social studies. It is worth noting that on 28/6/2023, the Energy Department of the European Commission agreed in principle to include the project in the list of "Projects of Mutual Interest".

## **II. Continental Electrical Interconnection:**

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

- The importance of the master plan for the Continental Electrical Interconnection Project is that it will present the current status of the electrical interconnection networks, the capabilities and future expansions within the five energy pools in Africa and determine the electrical interconnection projects that will be selected in the second phase of the priority action plan in the Infrastructure Program in Africa PIDA-PAP2.
- The first phase of the study was completed in October 2020, and the second phase is currently being completed in cooperation coordination and continuous communication with the five energy pools in Africa, and virtual meetings with members of the technical committees of the member states to discuss the reports (13 reports) of the study on forecasts of energy demand and planning scenarios, modeling, study results, and cost-benefit analysis in cooperation with NEPAD, EU consultant, and the International Renewable Energy Agency (IRENA), and present the reports to the Specialized Technical Committee of the African Union (STC).

### **EEHC's Membership in Eastern Africa Power Pool (EAPP):**

- Egypt, with its history, location and human capabilities, is taking the lead in the electrical system in Africa, especially the electrical interconnection with African countries and pools, through Egypt's membership in EAPP with 13 member countries so far, led by Egypt with its huge capacities which represents 22% of the whole capacities of the African continent and about 70% of the capacities of EAPP, in addition to the efficiency, quality and safety of the Egyptian electrical system. Egypt participates actively in all events, meetings, and activities organized by EAPP through its assiduous participation in the meetings of the Council of Ministers and the Steering Committee of EAPP as well as its membership in the operation, planning, electricity market and Human resources' committees of the Pool. Also, Egypt is chairing the electricity market committee of the Pool.





- 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 concerned committees 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:

#### 1. A Study on Operational Readiness of EAPP Countries:

- Egypt participates with EAPP member countries in collaboration with the World Bank in the study on operational readiness of the Pool members in accordance with the decisions of EAPP Ministerial Council meeting no. (14) held on 21/2/2019 in Entebbe, Uganda, that included the completion of implementing the 10-Year Strategic Plan of the Pool as follows:

- **Task (1)** - Network Code Compliance;
- **Task (2)** - Balance of Capacities;
- **Task (3)** - Evaluation of Existing Training Programs for Network Operators;
- **Task (4)** - Modeling and Analysis of Electric Power Systems; and
- **Task (5)** - Completion of the Pool Operation Guidelines.



- During the year 2022, the terms of reference (TOR) were tendered for the advisory services for the second phase of the operational readiness study of EAPP member countries, with workshops to start in October 2023 for the following tasks:

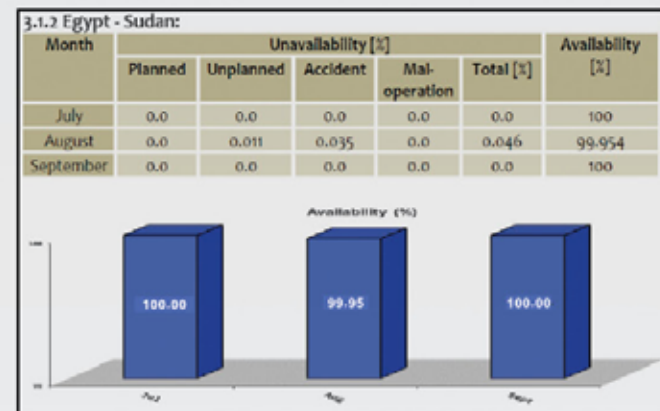
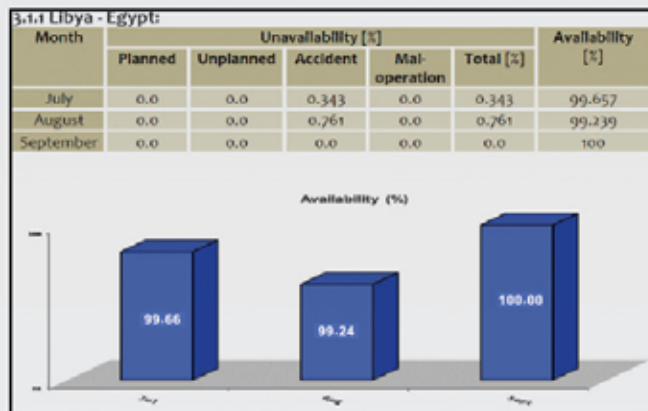
- **Task 1A:** Validation of the static model.
- **Task 1B:** Validation of the dynamic model.
- **Task 1C:** Analysis of compensation for ineffective capacity.
- **Task 1D:** Frequency regulation analysis.
- **Task 1E:** Prepare an investment plan to comply with the Interconnection Code (IC).





## 2. 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.



## 3. The Electricity Market for EAPP Countries:

- Egypt chairs the Electricity Market Committee in its current session, as the project to design the regional electricity market in the Pool has been completed with the participation of Egypt, aiming at designing an electricity trade market for EAPP in accordance 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).
- An energy trade and pricing policy agreement between the Pool countries was also prepared. It is a bilateral agreement to be signed between the countries wishing to transmit and trade electricity within the Pool. The agreement has been reviewed by the member states through members of the working group entrusted with this activity within the Pool in preparation for presenting it to the Steering Committee and the next Ministerial Council that is scheduled to be held during the month of July 2023 for approval. Work has begun on the pilot electricity market operation project with the participation of EAPP member states through interactive workshops and virtual meetings to discuss bids and trade results on the market's training platform, which is the final preparation for starting actual operation of the regional electricity market in the Pool.

## 4. Power Balance Statement:

- A working group of member states was formed in partnership with the Pool's Secretariat to prepare the annual capacity balance report in accordance with the study on the first operational readiness of the Pool countries, and reports are prepared through virtual and in-person workshops.
- The report was issued for the years 2019/2020 during the conduct of the study, and a working group with the Secretariat prepared the report for the year 2021. Work is currently underway on the new report.

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

- In January 2020, a preliminary study was prepared for the continental electrical interconnection between Cairo and Cape Town parallel to the land road being worked on between the two cities, with the first phase of the project linking Egypt, Sudan, and Ethiopia. This corridor will serve as a main route for electrical interconnection across Africa, and the project has been included in the study of the continental interconnection under the auspices of NEPAD with whom cooperation is underway to update the master plan of EAPP.
- 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 concerned ministries in related projects, for example the navigation corridor between Lake Victoria and the Mediterranean (Vic-Med).

### Egyptian / Danish Energy Partnership Program:

- **The Strategic Sector Cooperation Agreement (SSC) between Egypt and Denmark, under the Egyptian / Danish Energy Partnership Program 2020-2023, provides a number of areas of technical support from the Danish side to the Egyptian side through seminars, workshops and study visits.**
- **The Program aims at consolidating cooperation between the Danish side with the Egyptian partners, namely the Ministry of Electricity and Renewable Energy, EEHC, EETC, NREA, and EgyptERA, to provide advisory support to enhance the capability of the energy system to integrate renewable energy generated into the energy system in a cost-effective manner and to transfer Danish and European expertise in the field of liberalizing energy markets to Egyptian partners, providing auxiliary services and ensuring the stability and resilience of Egypt's energy system under supervision of a high-level steering committee.**
- **An action plan was agreed upon where four main lines of action are presented:**
  - 1- Increase the ability to plan the Energy Sector for variable renewable energy.
  - 2- Enhance the capacity of the energy system to integrate generated renewable energy into the energy system in a cost-effective manner.
  - 3- Evaluate and review of options for developing wind energy projects in Egypt.
  - 4- Energy efficiency in the Energy Sectors in Egypt.
- **EEHC effectively participates in all activities, meetings and workshops organized by the Danish side in cooperation with the Egyptian counterparts, including for example:**
  - The 1<sup>st</sup> Working Group: Energy modeling (Balmoral Model) to work on the energy forecast report for Egypt.
  - The 2<sup>nd</sup> Working Group: Designing energy markets, network operating codes, ancillary services, and electrical interconnection.

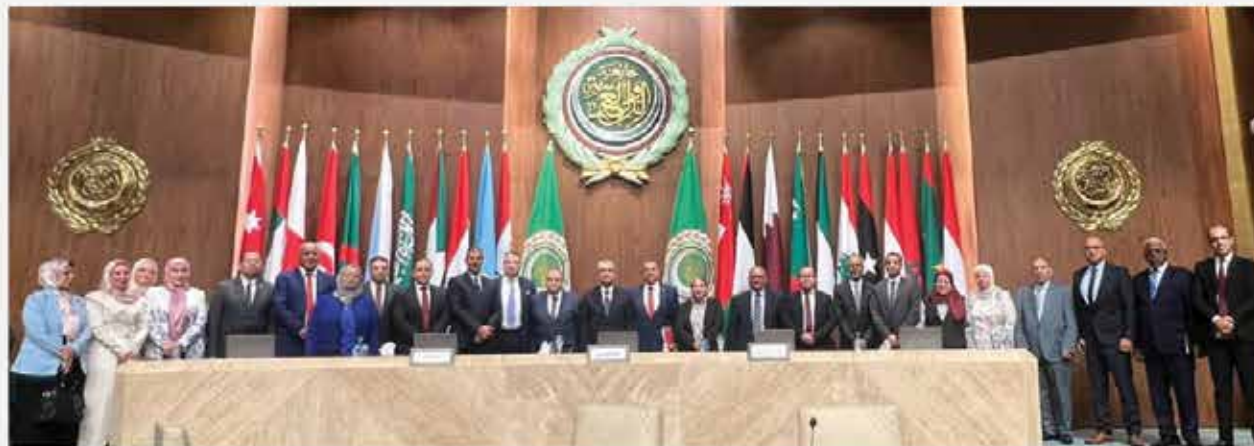
### Egypt's Membership in International Organizations:

- In the context of the Egyptian Electricity Sector's endeavor to transform Egypt into a pivotal energy hub, and in order to exploit the great opportunities for generating clean electricity from solar energy and wind farms, and in order to take advantage of 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 fields of training, smart grids and technical support.
- As a member of the Organization, EEHC also participates in the meetings, conferences and workshops organized by GEIDCO at the African and global levels in the fields of international interconnection, electricity markets, renewable energy, and energy efficiency.
- Through its membership in the 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 (OME), Egypt participated in manifold studies, such as:
  - Participating in the preparation of the two work program documents of the Regional Electricity Market Forum and the Renewable Energy & Energy Efficiency Forum.
  - Studying the extent to which the national code matches with the code of the Mediterranean TSOs aiming to reach the joint electrical interconnection around the Mediterranean.

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

- Egypt effectively participates in the Comprehensive Pan-Arab Electrical Interconnection Project which is the basis for the establishment of the Arab Electricity Common Market through its presidency of the Arab Ministerial Council for Electricity and chairmanship of the Steering Committee, and membership of the Executive Office, the Committee of Electricity Experts in the Arab Countries, and the Working Group of the Comprehensive Arab Electricity Interconnection Study (a specialized team from EEHC: legal, technical, and financial).





- The Arab common market for electricity is based on the existence of a strong institutional framework with an integrated infrastructure that considers the technical aspects necessary to create the market. To achieve the integration of the electricity common market, a legislative framework has been developed based on four basic documents for market governance; namely, the Memorandum of Understanding, the General Agreement, the Arab Electricity Common Market Agreement, and the Rules of Arab Networks Operation.
- The World Bank Group and the Arab Fund for Economic and Social Development, in association with the General Secretariat of the Arab League, organized the 1st Conference on Energy Trade in the Arab region in Cairo, with a wide participation of regional and international ministers and experts, an event that represents a major milestone towards the successful completion of the foundational phase of establishing the Arab common market for electricity.
- The implementation of the 6th and last phase of the pilot program for the Arab electricity common market functions and the regional pricing mechanism, which was hosted by the Saudi Electricity Company (the main buyer) in Saudi Arabia, has been completed with the participation of Arab member states through representatives of each country in working groups representing the technical, economic and organizational aspects, for training on how to organize and manage electricity trade within the Arab Common Market (Riyadh, October 2022).
- On 2/3/2023, the "Knowledge Sharing" program, presented to the committees of the Arab Common Market (the Advisory & Regulatory Committee and the Electricity System Operators Committee), was launched in cooperation with the World Bank and the Arab Fund for Economic and Social Development at the headquarters of the Arab League during the period 27-28 February 2023, then the 35th meeting of the Steering Committee was held on 1/3/2023, followed by the 14th meeting of the Committee of Electricity Experts in Arab Countries.
- 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 Arab League, where the meeting recommended holding an extraordinary session of the Arab Ministerial Council for Electricity in September/October to approve the two agreements of the Arab Common Market for Electricity.

### Arab Union for Electricity:

- Egypt participates in the membership of the Arab Union of Electricity (AUE) which was founded in 1987 with the aim to improve and develop the electricity sector in the Arab world, including the areas of generation, transmission, distribution, manufacturing, etc. Its membership includes (32) active members of various ministries, authorities, institutions working in the electric energy sector in Arab countries.
- Egypt actively participated in the 7th General Conference of the AUE held in the State of Qatar in March 2022, taking part in some important dialogues, including:
  - The Arab Common Market for Electricity: "A Necessity for Arab Energy Integration".
  - Electrical Interconnection of Arab Countries and Interconnection with Foreign Countries: "Existing Projects, Experiences and Future Plans".
  - Means of controlling the contribution of renewable Energies Connected to the Electrical Interconnection Network.





## Egyptian Electricity Market

- The development of the Egyptian electricity sector is carried out based on several defined policies and integrated plans and programs and regulatory laws and legislations, where the Electricity Law no. 87 of 2015 and its Executive Regulation were issued with the aim to support the structural transformation system in the Egyptian electricity market by way of operating the electricity system according to economic and environmental standards that guarantee equal opportunities while maintaining the interests of electricity producers and consumers.

## Cooperation with Japan (regularization of EEHC conditions):



- In order to develop the electricity and renewable energy sector, the Egyptian state has taken many steps through cooperation with Japan, where the Japanese International Cooperation Agency (JICA) funded the consulting services provided by Tokyo Electric Power Services Company (TEPSCO) to EEHC to achieve sustainability of the key role of the Holding Company as a leading entity responsible for electricity in Egypt, aiming to secure electrical supply, and its capability to regularize its conditions in light of the requirements of the Electricity Law No. (87) of 2015 and its subsequent amendments.
- The Japanese consultant developed a work plan to implement its advisory activities, which included four main scopes of work related to enhancing the capacity of the electricity sector, formulating the Company's corporate plan, developing electrical interconnection requirements, and developing human resources. An indicative model was chosen from the production companies (Cairo Electricity Production Company - West Cairo Power Plant Extension) and an indicative model from the distribution companies (North Cairo Electricity Distribution Company - Abbasseya Networks Department) to implement the pilot projects of the plan. Final progress reports for those projects have been issued, including all important recommendations aimed at developing work within the production and distribution systems under the umbrella of the Holding Company.
- The advisory services project provided by the Japanese side contributed significantly to setting rules to support the future institutional plan for EEHC and its subsidiaries in the short, medium and long term, to make Egypt a pivotal hub for electricity trade in the region.
- The Egyptian and Japanese sides have agreed on the importance of identifying areas of cooperation during the coming period between JICA and the Egyptian electricity sector, including further participation of the Japanese private sector in energy projects in Egypt, especially in the areas of new and renewable energy, electricity markets and exporting energy to Europe.
- The project's final report is being drafted jointly by the Japanese consultant and the work team from EEHC, as the report includes all activities that took place during the period from December 2018 until June 2023.





### Private Sector Participation in Renewable Energy Projects

- Within the framework of implementing the strategy of the Ministry of Electricity & Renewable Energy to drive the contribution of renewable energy up to 42% of the total generated energy by 2035, through implementing policies aimed at encouraging the private sector to invest in electricity production projects from new and renewable energies (wind and solar) through EETC, the following has been achieved during the year 2022/2023:

#### I. Private Sector and Wind Energy Projects:

- Signing power purchase agreements (PPA) with Amunet Co. (Al-Nowais of UAE) for wind energy in the Gulf of Suez, with a capacity of 500 MW, and the commercial operation is targeted in August 2025.
- Signing PPAs with the Red Sea Power Co. (ENGIE - Toyota - Orascom) for wind energy in the Gulf of Suez, with a capacity of 500 MW, and the commercial operation is targeted to take place in two phases:
  - The 1<sup>st</sup> phase with a capacity of 250 MW (December 2024).
  - The 2<sup>nd</sup> phase with a capacity of 250 MW (August 2025).
- Signing PPAs with ACWA Power (Hassan Allam) for wind energy in the Gulf of Suez with a capacity of 1100 MW, and the commercial operation is scheduled to start by end of 2027.
- In addition, arrangements for signing PPAs are underway with:
  - The Consortium "Masdar - Infinity" for 200 MW, and
  - The Consortium "Siemens - Gamesa" for 500 MW.



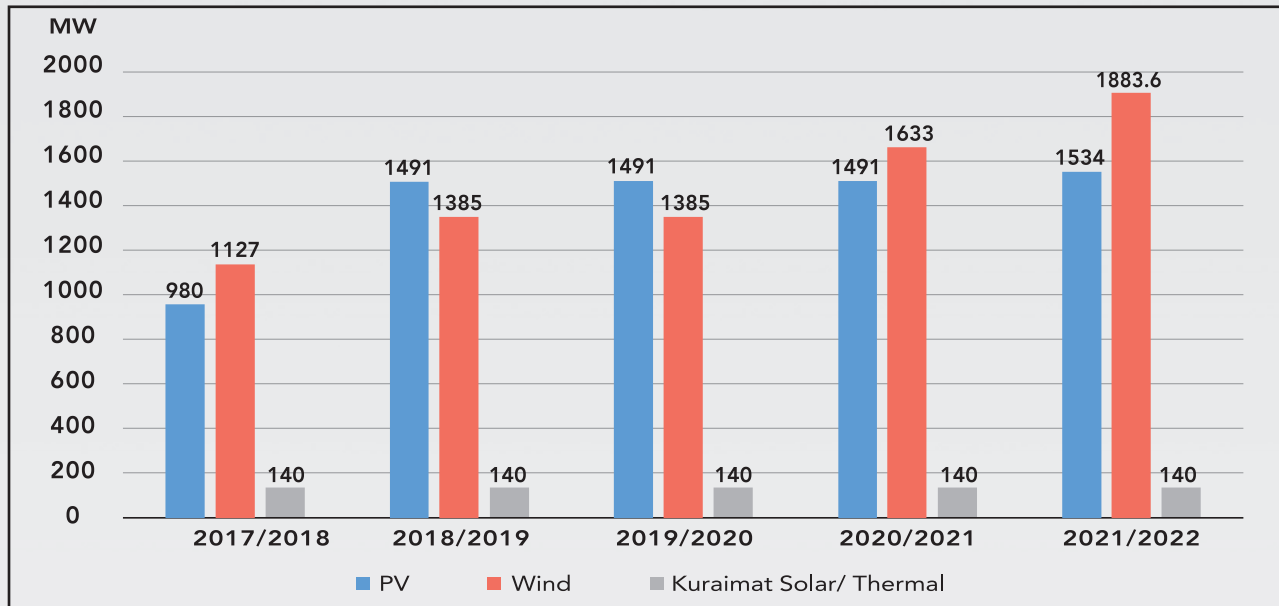
#### II. Private Sector and Solar Energy Projects:



- The final signing was made with the Emirati company Al-Nowais on the power purchase agreement for Abydos solar power project using photovoltaic PV cell technology in Kom Ombo area in Aswan, under BOO mechanism with a capacity of 500 MW, and its commercial operation is planned during the year 2024.
- On 6/4/2021, a PPA was finally signed with ACWA Power of Saudi Arabia for energy generated in photovoltaic power plant in Kom Ombo, Aswan, under BOO mechanism with a capacity of 200 MW, and the commercial operation is scheduled to start in 2024.



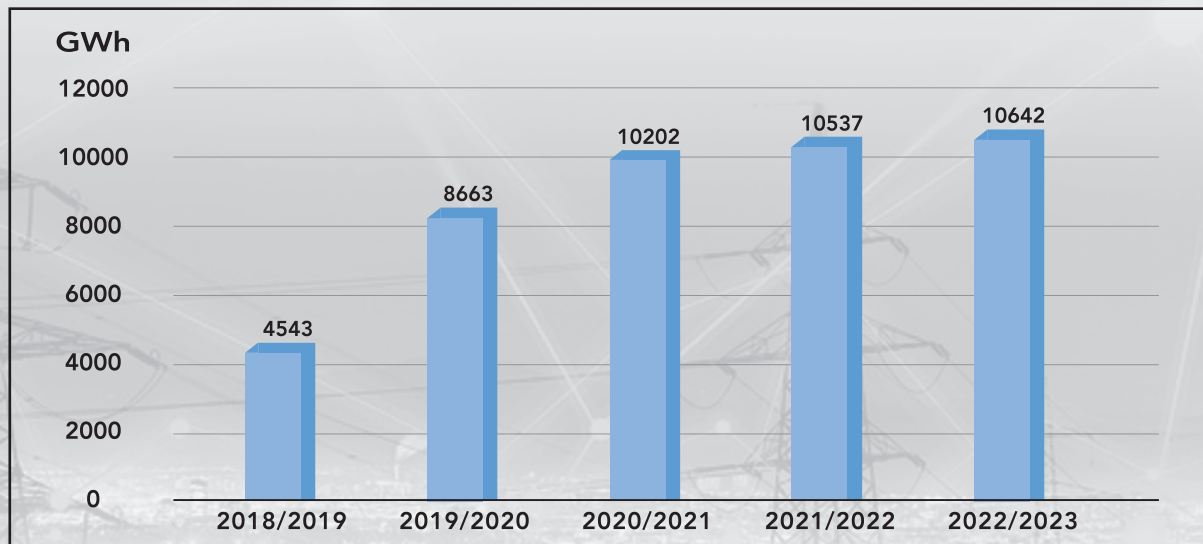
### Installed Capacity of Renewable Energies \*



\* Connected to the unified national grid and Excluding a 5 MW wind plant in Hurghada.

- In 2011, the first solar/thermal power plant for electricity generation in Kuraimat was commercially operated with a capacity of 140 MW of which 20 MW is a solar component.
- **Solar power plants 1534 MW include:** 1465 MW in Benban (private Sector) and 26 MW in Kom Ombo area, and 43 MW in Zafarana.
- **Wind farms 1883,6 MW include:** 541.1 MW in Zafarana, 580 MW in Gabel El-Zeit, 262.5 MW in Ras Ghareb Shoqeir (private Sector), 250 MW in West Bakr area, Lekela (private sector), 250 MW, KFW.

### Development in Energy Generated from Renewables \*



\* Connected to the unified national grid

- The total energy generated from wind farms amounted to 5664.7 GWh, and from PV power plants 121.1 GWh, and from Binban Solar plant 4423 FWh, and from Kuraimat thermal/solar plant 433 GWh.
- Generated energy from renewables mainly depends on wind speed & solar irradiance.









# Electrical Power Distribution

The electricity distribution companies in Egypt are:

North Cairo Electricity Distribution Co.

North Delta Electricity Distribution Co.

South Cairo Electricity Distribution Co.

South Delta Electricity Distribution Co.

Alexandria Electricity Distribution Co.

Beheira Electricity Distribution Co.

Canal Electricity Distribution Co.

Middle Egypt Electricity Distribution Co.

Upper Egypt Electricity Distribution Co.





### Objectives of Distribution Companies (DISCOMs):

- 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 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.
- ④ Preparing forecast studies on loads and energy for the Company's subscribers and also economic and financial forecast for the Company itself.
- ⑤ Carrying out any other works or activities related to or complementing the Company's objectives in addition to any other work that may be entrusted to the Company by EEHC within its competence.
- ⑥ Managing, operating, and maintaining isolated generation units which are not connected to the unified grid.
- ⑦ 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 Distribution Network Statistics (as at 30.6.2023)

DISCOM	North Cairo	South Cairo	Alex.	Canal	North Delta	South Delta	Beheira	Middle Egypt	Upper Egypt	Total	
Description											
No. of Subscribers (in thousands)	5118	6444	2988	4959	4842	5315	2710	4613	3692	40681	
Energy Sold to Subscribers * (GWh)	18347	22114	8600	25940	12094	11238	10954	16745	11705	137737	
Purchased Energy ** (GWh)	22667	31202	10092	29281	15107	14010	13651	20444	14630	171084	
Number of MV Distributors	545	479	285	1735	257	252	337	225	254	4369	
Percentage of overall total (%)	12.48	10.96	6.52	39.71	5.88	5.77	7.72	5.15	5.82	100	
Length of MV Network (km)	Lines	102.8	3324	525	15946	9981	7702	17230	22634	11638	89083
	Cables	28003.6	28703	13005	27336	9534	8528	11650	12026	12067	150851
	Total	28106.4	32027	13530	43282	19515	16229	28880	34660	23705	239934
Length of LV Network (km)	Lines	3602	4829	4646	33933	23836	19276	25940	39533	38561	194155
	Cables	40873.9	61104	6888	18403	3421	1197	3900	4579	4135	144501
	Total	44475.9	65933	11534	52336	27257	20473	29840	44112	42696	338655.9
Total Lengths of Lines & Cables (Km)	72582.3	97960	25064	95617	46772	36702	58720	78771	66400	578588.3	
Percentage of overall total (%)	12.54	16.93	4.33	16.53	8.08	6.34	10.15	13.61	11.48	100	
Number of Subscribers (1000) / Total Length (Km)	0.071	0.07	0.12	0.05	0.10	0.14	0.05	0.06	0.06	0.07	
Sold Energy (GWh) / Total Lengths (Km)	0.25	0.23	0.34	0.27	0.26	0.31	0.20	0.21	0.18	0.24	
Number of Distribution Transformers	20561	23828	9532	41135	19373	19617	30944	31191	25175	221356	
Sold Energy (GWh) / Number of Transformers	0.89	0.93	0.90	0.63	0.62	0.57	0.35	0.54	0.46	0.62	
Capacity of Distribution Transformers MVA	17839	19242	6690	18368	6674.4	7107	8262	8710	7452	100344	
Percentage of transformers' number of overall total (%)	9.29	10.77	4.31	18.59	8.75	8.86	13.96	14.09	11.38	100	
Number of LV boxes and panels	71227	73199	9532	57933	22514	19893	33690	15572	16775	320335	
Percentage of overall total (%)	22.2	22.8	2.9	18.1	7.0	6.2	10.5	4.9	5.2	100	

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

\*\* Purchased Energy excluding self-generation.

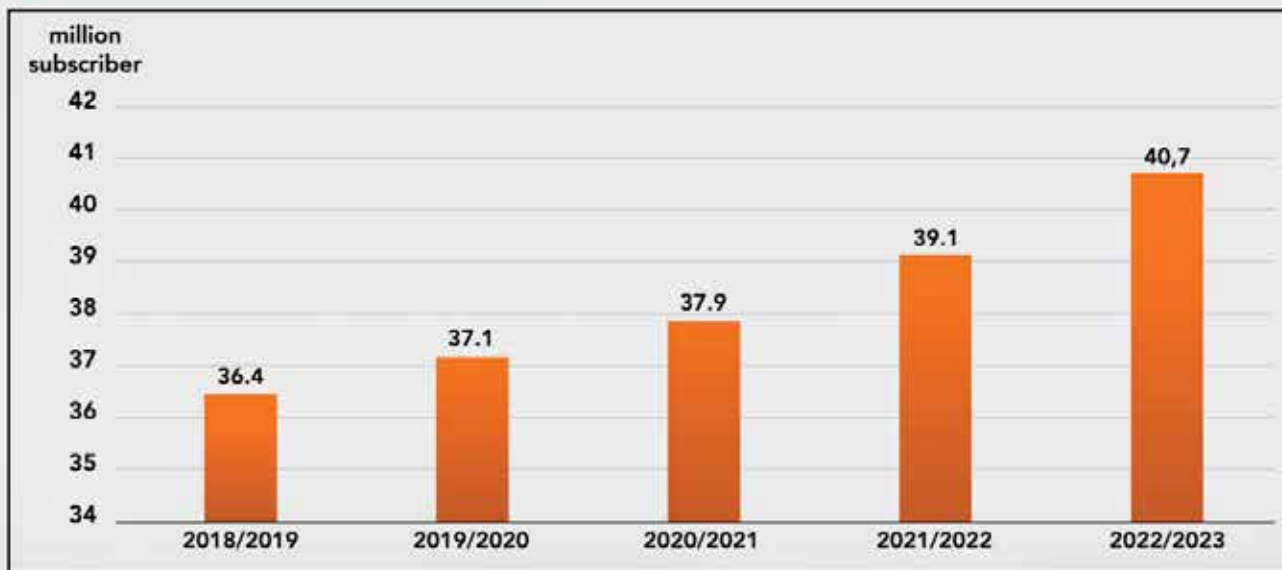




## Statistics of Distribution Companies (on medium and low voltages)

### 1 Number of Subscribers:

Description	2021/2022	2022/2023	Growth Rate (%)
Total number of subscribers on medium and low voltages (in million)	39.1	40.7	4.1



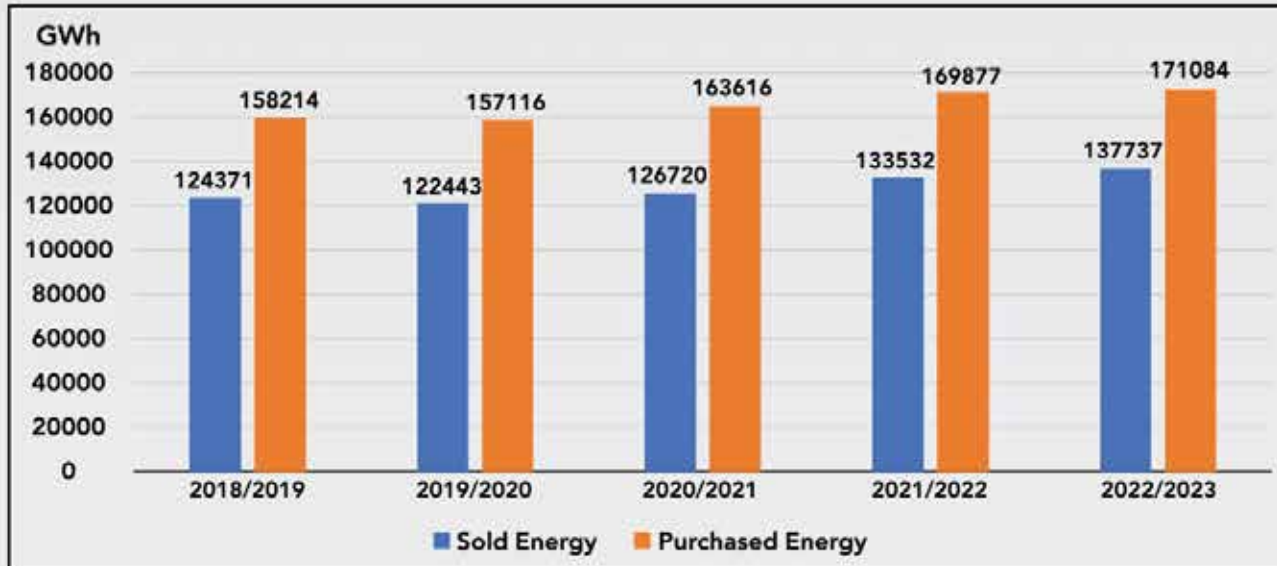
The average growth rate of subscriber numbers amounted to 2.8% during the period from 2018/2019 to 2022/2023.





**2** Purchased & Sold Energy in Distribution Companies:

Description	2021/2022	2022/2023	Growth Rate (%)
Total Purchased Energy (GWh)	169877	171084	0.7
Total Sold Energy (GWh)	133532	137737	3.1

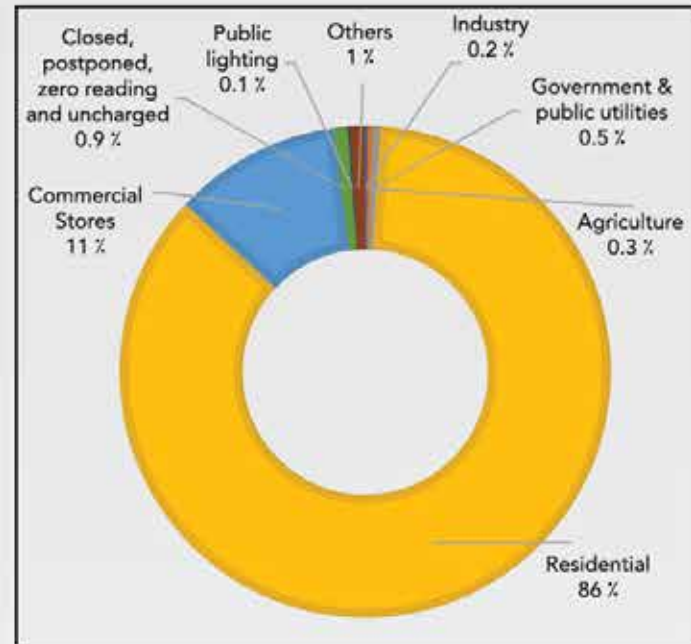






**3) Number of Subscribers (on medium & low voltages) According to Purpose on 30.6.2023:**

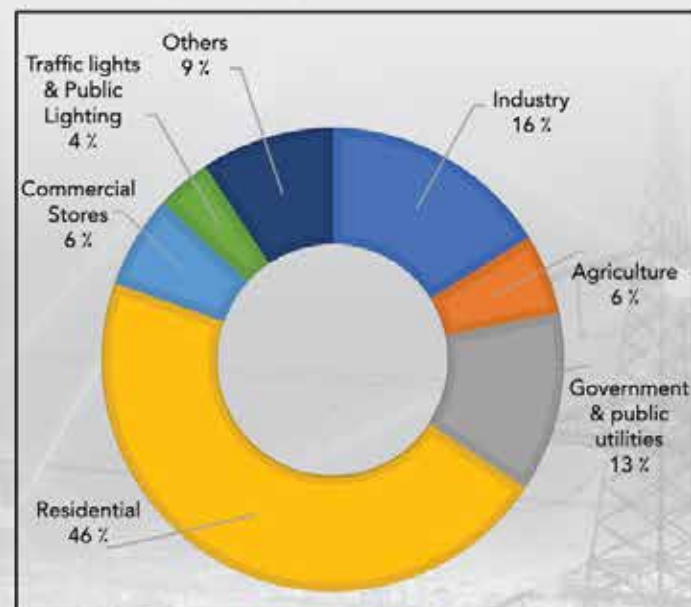
Description	Number of Subscribers (in 1000s)
Industry	82
Agriculture	128
Government & public utilities	193
Residential	34968
Commercial Stores	4481
Closed, postponed, zero reading and uncharged	377
Public lighting	54
Others	398
<b>Total</b>	<b>40681</b>



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

**Energy Sold (on medium & low voltages) According to Purpose on 30.6.2023:**

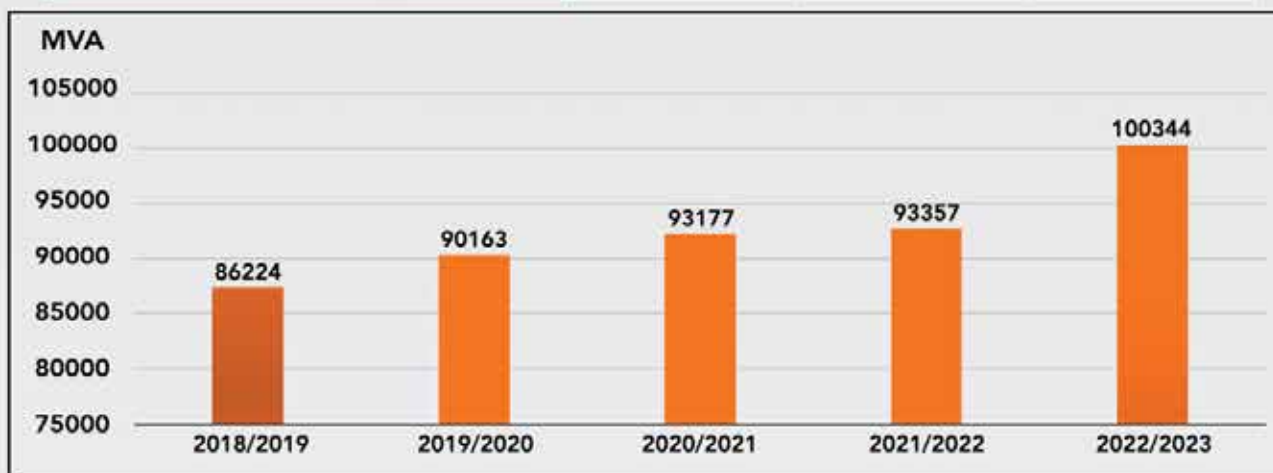
Description	Sold Energy (GWh)
Industry	22258
Agriculture	7723
Government & public utilities	17283
Residential	63415
Commercial Stores	8919
Traffic lights & Public Lighting	5361
Others	12778
<b>Total</b>	<b>137737</b>





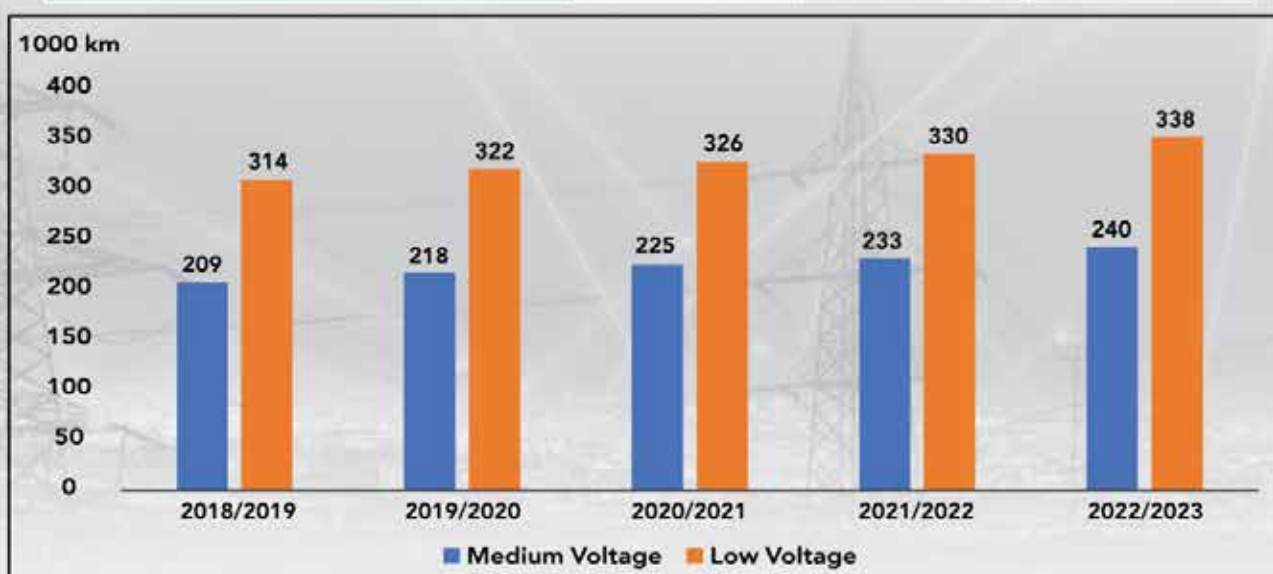
#### 4 Total Capacities of Distribution Transformers:

Description	2021/2022	2022/2023	Growth Rate (%)
Total capacities of distribution transformers on medium & low voltages (MVA)	93357	100344	7.4



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

Description	2021/2022	2022/2023	Growth Rate (%)
Total lengths of medium voltage overhead lines & cables (1000 km)	233	240	3
Total lengths of low voltage lines & cables (1000 km)	330	338	2.5







### Smart Services:

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

The total number of service centers amounted to 465 centers as at 1/8/2023, where:

- A Service Center Evaluation Manual was prepared aiming to set up evaluation standards specialized in the performance of customer service centers.
- A Unified Procedural Manual for Service Quality was prepared to enable internal audit of service centers, quality assurance and the application of continuous improvement methodology.
- A Manual was also prepared for public services, which shows the planning of processes followed to conduct the service and the performance indicator for each process, in order to measure the performance level and achieve customer satisfaction.
- A plan was implemented to visit the service centers to follow up on performance rates and review procedures and service requests presented, where visits were paid to (60) service centers and charging centers belonging to the various distribution companies.
- Mobile service vehicles started to operate to reach customers in remote areas, as they were implemented in Alexandria, Canal, Middle Egypt and Upper Egypt DISCOMs.

#### Visual Identity

- The uniform visual identity has been applied to (81) service centers out of (465) centers in total within the 4-year development plan.
- Visual identity has also been applied to electricity kiosks in all DISCOMs.

#### Excellence in Customer Service

- Follow up the implementation of capacity building programs identified by CID Consulting Office in DISCOMs' service centers, ensure the efficiency and effectiveness of training courses to improve employee performance, change undesirable practices, and maximize continuous improvement projects.
- A number of (560) service employees were trained to excel in customer service at the Arab Academy for Science, Technology and Maritime Transport, and (16.778) employees in the service branches were trained through (14) training programs.

#### B- Customer Service Unified Number (121) for Receiving Complaints and Reports:

- On 26/6/2016, a contract was signed with (Xceed) Company to provide call center service where reports and complaints are received from customers on the unified number (121), then customers are called back by Xceed to ensure that their complaints are resolved, at a rate of 20% for technical reports and 100% for commercial reports in each DISCOM.
- The number of incoming calls amounted to about 18 million calls, and the average response rate for technical reports reached 99.9% and for commercial reports 99.8% until 24/8/2023.
- Multiple channels were made available to receive complaints and malfunction reports through linking those channels to the system (the unified platform, Wasel App for the deaf and dumb, emergency application, power restoration shifts). Priority is given to work on reports received from people with special needs, the deaf and dumb, and high-risk reports.





### C- The Unified Platform for Smart Electricity Services

Within the framework of the State’s strategic orientation towards digitization and its interest in the right of Egyptian citizens to obtain the services provided easily and smoothly under the umbrella of governance, integrity and transparency, the unified platform for electricity services was launched, where the following have been made available:

- Citizens obtain all electricity services in a safe and easy manner that saves time and effort without the need to go personally to a service center.
- Providing a means of remote communication between customers and service centers of DISCOMs.
- 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 linkage with the various governmental entities and the Digital Egypt platform to facilitate the provision of services to citizens.
- Providing the ability to follow up the progress of service requests for citizens without the need to go to service centers.
- Providing payment of all fees and value of estimates electronically without dealing in cash with the branches.
- Beginning to implement the smart zone in some service centers, which makes it easier for citizens to submit service requests electronically on their own while preserving the confidentiality of data and the quality of the service provided.



### D- Apps for People of Determination:

Applications have been launched for making 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 work force. The State endeavors to maximize the benefit of those people within the framework of the broader orientation of investing in people, and the goals of these applications are represented in the following:

- 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 persons 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.







### E- Emergency Application

- An Emergency & Power Failures App was launched and linked to the 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 app's objectives are:

- 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.

### F- 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 Centre consists of: (The Unified Platform for Electricity services - Items Coding Project- Decent Life Project- The Unified Complaints & Failures' System- The Unified Collection Mechanization and Shipping System).
- The Centre has several characteristics which are represented in (follow-up on the status of information infrastructure, follow-up electronic payment points, effective fault management, emergency services, connectivity to the national grid, safety and protection).
- **The Centre's objectives are to:**
  - 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.





## Digital Transformation

The Electricity Sector, represented in EEHC and subsidiaries, sought to be an active player in the digital transformation system in collaboration with the Administrative Control Authority and the Ministry of Communications & Information Technology by implementing the project of unifying subscribers' databases and linking subscribers spatially on area maps and diaries.

- Linking works were completed in (15) governorates (Port-Saeed, Suez, Ismaileya, South Sinai, Luxor, Aswan, Beni-Suef, Menya, Assiut, Fayoum, New Valley, Qena, Sohag, Red Sea, and Alexandria) with a total of about 10.8 million subscribers.
- Linkages are underway in (11) governorates (10th of Ramadan and new cities, Cairo, Giza, Damietta, Kafr El-Sheikh, Daqahleya, Qalyubeya, Menoufeya, Gharbeya, Beheira, and Marsa Matrouh) with a total of about 26.8 million subscribers, out of whom the linking of 19 million subscribers has been completed.
- This brings the total number of subscribers for whom the spatial linkage has been completed to 29.8 million subscribers.

## Preparation for Moving to the Administrative Capital:

- A Digital Transformation Unit was formed through interviews conducted with the staff of the Ministry of Communications, and the necessary training was received for each job title.
- Digitization of documents and records of all EEHC sectors has been finalized with its 1st and 2nd phases, with migrating data to the Data Center of the Strategic State Command Center (Octagon) in preparation for uploading it to OpenText.
- Introduction of Internet service to the Electricity complex building in the Administrative Capital at a speed of 100 mis.
- Counting was conducted for the electronic signatures of employees of the distribution companies who did not move to the Administrative Capital in preparation for issuing electronic signature certificates.
- Training on participatory programs has been completed, and coordination is underway to activate the content management program and the correspondence program. The fingerprint of employees in the Administrative Capital have been uploaded in preparation for activating the attendance and leaving program through the HR participatory program. The P-Cloud connection line has been activated at a speed of 6 MB/s between the main data center of EEHC and the main data center in the New Administrative Capital.
- Actual relocation and operation of EEHC headquarters in the Administrative Capital was completed, with technical support provided for everything related to the network, devices, and Access-Point wireless network stations (394 stations).
- Installation and operation have been completed and technical support is being provided for each of the zero computer devices operating on the closed government network G-Cloud (200 devices) and the external network P-Cloud (158 devices).
- Security testing of the specialized applications is underway by EG-CERT in preparation for their transfer to the unified data center in the Administrative Capital.
- The content and correspondence management programs and dealing with digitized files are being activated.
- An operating and monitoring center has been established for all specialized systems of EEHC and its subsidiaries which are hosted in the main data center of EEHC through a connection line to the external network P-Cloud.
- The study and analysis of the proposals received from Telecom Egypt (We) for IP-Phones were completed, and an inventory of EEHC's needs was made. The contract with Telecom Egypt was completed, (562) IP-Phone devices were operated, and technical support is being provided to them.



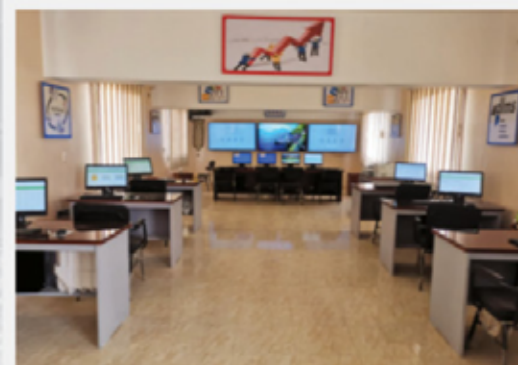


### Smart Meters:

- **In March 2016**, a protocol of cooperation between EEHC and the National Defense Council was signed for boosting the security and development of the information systems and establishing databases in the field of smart meters and their applications in order to ensure confidentiality of information and data of DISCOMs.
- **In May 2017**, a contract was signed for the supply, installation, operation, and maintenance of the advanced measurement systems for infrastructure on turn-key basis for a number of (213000) smart meters as a pilot project within the geo-scope of six DISCOMs (i.e., North and South Cairo, Alexandria, Canal, South Delta, and Middle Egypt).
- Data centers were established and operated in six DISCOMs, and the main data center and the exchange center were also established.
- About (213000) smart meters were installed and operated, and the system bills were issued for about (189000) meters.
- The provisional acceptance of the Project has been realized in all DISCOMs.
- On 7/7/2021, a public tender was issued to install about (530000) smart meters for kiosks, transformers, distributors and major subscribers at the level of DISCOMs. The objectives of implementing the project are:
  - Measuring the loss between the Transmission Company and distributors, and between distributors and transformers precisely.
  - Measuring the purchased energy accurately without need for human intervention.
  - Monitoring the loads of distributors, transformers and cables remotely and without need for any human element.
  - Monitoring voltages and power factor in order to take the necessary actions to improve them.
  - Determining the peak load for each DISCOM accurately.
  - Determining the exact needs of DisCos in the investment plan.
- Technical and financial analysis of bids have been completed, and the financial negotiation is underway in preparation for contracting with the awarded companies.
- Cybersecurity tests have been conducted for GlobalTronics and Hassan Allam companies in accordance with the decision of the Higher Security Technical Committee, and still remaining tests for the Egyptian Smart Meters Company (ESMC).
- The second phase of the smart meters' project for a number of 1.6 million meters has been awarded to Wadi El-Nile Company, and the contract is under review.



Installed Smart-meters



Data Center Operation Room





### Pre-Paid Meters:

The use of this type of meters had been expanded since 2011 and was generalized in 2014, with about 16.5 million meters installed up to 30/9/2023. Using pre-paid meters aims to:

- Achieve financial liquidity for electricity companies resulting from prepayment of charging value.
- Avoiding 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 FY 2022/2023, a number of 2.6 million meters were installed, and it is targeted to complete installing three million meters during the next FY 2023/2024.



### Improving Energy Efficiency of Distribution Networks:

**Encouraging spread of renewable energy (solar up to 20 MW):**

- The total number of solar power stations already implemented reached 1777 stations with an aggregate capacity of 189 MW, where:
  - 1- A number of 163 stations were implemented with a total capacity of about 9.2 MW on the rooftop of buildings of EEHC and subsidiaries.
  - 2- A number of 63 stations were implemented by subscribers with a total capacity of about 33.3 MW under "Feed-In-Tariff mechanism."
  - 3- A number of 1544 stations were implemented by subscribers with a total capacity of about 122.8 MW under "Net Metering scheme".
  - 4- A number of 7 stations were implemented with a total capacity of about 24 MW isolated from the grid.

**Generating Energy from solid wastes:**

- A Power Purchase and Connect-to-Grid Agreement has been signed for a plant for converting municipal solid wastes to electric power within the geo-scope of South Cairo DISCOM with a capacity of 30 MW, and the construction of another plant within Alexandria DISCOM is under consideration.
- The power generating plant from biogas with a total capacity of 1000 KW within the North Delta DISCOM has been connected to the national grid, and the connection of (3) power plants from Biogas with a total capacity of 3000 KW is underway within North Delta and Beheira DISCOMs.
- Encouraging promotion of efficient energy consumption in industrial and commercial sectors.
- Raising citizens' awareness of rationalization to increase the efficiency of electrical energy and renewable energy within DISCOMs.
- Cooperation with Banque Misr in rationalizing and improving efficiency of electrical energy and renewable energy within DISCOMs.

### Infrastructure Security:

- The 1<sup>st</sup> phase of the Project is now completed.
- A contract has been signed for the 2<sup>nd</sup> phase, and the supply and implementation works are being carried out at the level of (9) DISCOMs.





### Meter Security System:

- The meter security system has been implemented in all DISCOMs, and the “DR security system” is being activated in North Cairo DISCOM.

### Unified Program for Charging Meters:

- A contract has been signed with the General Intelligence Service (GIS) for a unified program to charge meters, and follow-up and testing is underway at South Cairo DISCOM.

### Specifications:

- Standard specifications have been developed for the equipment of DISCOMs for 130 standard specifications, coding them in accordance with the Egyptian standard specifications and uploading them to the website of EEHC.

### Establishment and Development of Distribution Controls:

- The Ministry of Electricity, represented in EEHC, is carrying out a development process of distribution networks to raise the level of performance and improve the quality of electrical supply, where a plan was drawn up to establish and develop a number of control centers in the distribution networks in several phases distributed geographically across the country. These will monitor the electricity distribution network and improve its performance and will be able to meet the needs of population growth nationwide as well as the requirements of industrial development, where the following advantages will be realized:
  - Operating equipment and supplies in an optimal way.
  - Reducing the cost of operation and maintenance of distribution networks.
  - Reducing the loss rate.
  - Increasing networks reliability and upgrading the quality of electrical supply.
- The 1<sup>st</sup> Phase of (5) control centers in total, where a contract has been signed with Schneider Electric to implement (4) centers in North and South Cairo DISCOMs (Nasr City, New Cairo, Dokki, and 6th October) in addition to East Alex Control Center in collaboration with General Electric Company.
- All (5) control centers of the 1st Phase have already been implemented, as well as putting (4) of them into operation, and currently performing the trial operation for the last center, A contract is being prepared for execution with Schneider Electric to complete implementation of South Sinai Control Center in Sharm El-Sheikh.
- Subsequent phases will be implemented according to the readiness of the electrical grid.
- Emphasis was placed on using the latest technologies in the control, monitoring and communication systems.

### Rationalizing and Improving Energy Efficiency and Use of Renewables:

- On 29/2/2016 a loan agreement was concluded with JICA in an amount of J¥ 24.762 billion for implementing an Integrated Smart Network Project in (3) DISCOMs, aiming at reducing loss in electric power, minimizing thermal emissions and the rate of carbon dioxide in the atmosphere, and improving the performance efficiency of the electrical network.
- In June 2016, a consultancy services contract was signed with TEPSCO of Japan, and the loan was effectuated on 10/1/2017.





### Electric Vehicles:

- An electrical quality measurement device was installed in (3) DisCos (North Cairo, South Cairo, and Alexandria), and a technical study was conducted on the electrical network elements of AC and DC current charging units in order to spread and expand the use of the means of e-mobility for its positive impact on preserving the environment and localizing the manufacture of electric vehicles.



### Development of Squatter Settlements Project:

- Within the framework of the Republic President's directives for eliminating squatter areas, a protocol of cooperation was signed on 23/11/2016 between the Informal Settlements Development Fund (ISDF) and MoERE for the development of unsafe squatter areas located within the precinct of electricity transmission lines.
- As of October 2017, the implementation of the 1<sup>st</sup> Phase of the project started in a series of (6) consecutive phases within the scope of all DISCOMs, where the total cables implemented by the end of the 6<sup>th</sup> Phase in FY 2022/2023 amounted to about 1921.04 km, in addition to the supplies of connecting these cables, at a total cost of about EGP 2114.8 million, funded by the State public treasury.
- On 1/7/2023, the 7<sup>th</sup> Phase of the Project started for FY 2023/2024, where an amount of EGP 200 million has been allocated for completing implementation of targeted operations of the Project within the scope of DISCOMs..

### Ultra-High-Voltage Research Center:

- Revenues covering all expenses with a profit margin were achieved for the first time in the year 2022/2023, with revenues of about EGP 21.6 m. until 1/3/2023.
- On September 13, 2022, the Center obtained a quality system certificate in accordance with the requirements of the international standard ISO/IEC 9001.
- The Laboratory, Research and Testing Sector of the UHV Research Center had been certified as a conforming assessment body by the National Accreditation Council (EGAC), and certificate was renewed on 6/6/2023. During 2023, the Center participated with EGAC in developing the documents of procedures and models of the international standard requirements (ISO/IEC 17025:2017) for the following 66 KV cable tests:
  - Heating cycle voltage test followed by partial discharge test.
  - Lightning impulse voltage test followed by a power frequency voltage test.





- The Center has passed 7 tests for accreditation by EGAC.
- Resuming pollution tests for insulators using the salt fog method upon renovating its equipment after more than twenty years of cessation.
- Calibrating (9) devices not previously calibrated in addition to calibration of 27 devices in the Center.
- Stabilization voltage tests and partial discharge measurement of cable circuits up to 500 kV were contracted and carried out, using the mobile laboratory for cable tests where (18) external mission reports were issued.
- A number of (670) technical reports were issued regarding the types and number of samples received at the Centre.
- Implementing a device to perform mechanical shock (Impact Test) on the protection coating material of structural towers (tensile - suspension - transit) for medium voltage networks up to 22 kV according to EEHC's standard specifications.
- Implementing a device to conduct shock test on a cable sheath at a low temperature ( $-15^{\circ}\text{C}$ ) with different weights depending on the sample diameter in accordance with the international standard (IEC 60811-506).
- Preparing an equipment to conduct stress-strain curves testing for insulated air conductors with a voltage of (0.6/1) kV in accordance with the international standard (IEC 61089), as well as using it in conducting a tensile test on low-voltage tension clamps in accordance with the French standard (NFC 33 - 041).
- Preparing a device for mechanical shock testing of prefabricated bars according to international standard (IEC 61439-6).
- Adding a device to test the accuracy of current transformers (all voltages) in accordance with the international standard (IEC 61869-2) to ensure the measurement accuracy of current transformers before installing them in the electrical network to avoid any errors related to measurement and prevention.
- Contracts were concluded and tests were carried out for SF<sub>6</sub>-gas-insulated stations up to 500 kV using the mobile laboratory for testing gas-insulated items, where a number of (8) technical reports were issued for these missions.

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>th</sup> July St., Cairo	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 www.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.sdcdc.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









# Human Resources and Training

The Egyptian Electricity Holding Company pays special attention to keeping pace with the latest global changes and trends. Out of its strong belief in the importance of the human element and its ability to contribute positively to achieving goals and driving the production process, the Company's leadership is striving hard for the continuous development of the human resource capabilities and upgrading its capacity to deal with technology advancements and innovations.





## Workforce



The total number of staff of EEHC and its subsidiaries amounted to 138423 employees on 30/6/2023 compared to 143724 employees on 30/6/2022, at a decrease rate of 3.7%, as demonstrated below:

### Egyptian Electricity Holding Company (EEHC) Total: 2269 employees

#### Production Companies Total: 27512 employees

- Cairo 4117
- Mid Delta 5604
- Upper Egypt 3372
- East Delta 5654
- West Delta 6250
- Hydro Power 2515

#### Distribution Companies Total: 82732 employees

- North Cairo 10655
- Alexandria 9458
- North Delta 6780
- Beheira 6719
- Upper Egypt 6345
- South Cairo 14646
- Canal 12602
- South Delta 7593
- Middle Egypt 7934

### Egyptian Electricity Transmission Company Total: 24389 employees

### Medical Services Company Total: 1521 employees

## Development in Total Number of Employees





## Development of Human Resources and Performance Improvement

EEHC's Management strongly believes in the change the human resource can make, being the most important element of the production process, driving us to change our policy and strategy to be able to overcome challenges to ensure robust continuity, and therefore the following have been achieved:

- Shifting from traditional to strategic management of human resources, of which the human resource planning is a key axis that aims at attracting efficient elements to achieve the strategy, vision, and mission of EEHC and its subsidiaries.
- Providing technical support to subsidiaries to complete their data on the integrated system of human resources, conducting periodical reviews to verify data accuracy, and coordinating with the IT & Communication Sector for implementation and conformity to the human resources' database at the Ministry of Electricity & Renewable Energy (MoERE).
- Implementing job replacement and succession policy, improving the appointment process for leading positions, and effectively developing the capabilities of potential successors.
- Working on completing the activation of the entitlements and wages' system in all electricity companies and linking them to the integrated system of human resources.
- Developing a time plan to disseminate the mobile application for the integrated human resource system, which contains many services for employees (including, but not limited to, enabling employees to view and update their personal and job data, viewing their financial entitlements, automating employee complaints and sending them to the HR through the App, presenting requests for vacations of all kinds,...), and its activation has already started at Alexandria Electricity Distribution Co., and the activation is being followed up with the rest of the affiliated companies.
- Preparing an analytical study of the organizational and functional structure and conducting structuring processes in a manner consistent with the corporate structure and in light of advancements to keep pace with companies' requirements, with due consideration that no repetition or duplication occurs.
- Enhancing teamwork, raising the degree of employee satisfaction and improving their productivity through developing the internal system and policies that govern the work system.
- Qualifying the human resource sectors of EEHC and its subsidiaries to disseminate and implement the job succession project and apply it to some jobs.





## Medical Care

The Holding Company is very keen on developing and improving the provision of health care to the employees through the following:

- Establishing the Medical Services Company (MSC) to provide inclusive and distinguished health care, as will be detailed later in this report.
- Developing the strategy of the Medical Sector of the Holding Company based on:
  - Upgrading the level of primary medical care services (preventive, curative and educational) and expanding the provision of integrated services, for example:
    - » Developing an integral database on the employees, including their ages, diseases suffered, the job and its risks, on the basis of which an inclusive examination plan is prepared for each employee.
    - » Implementing medical education programs and raising health culture among employees by holding lectures and training courses.
- Developing outpatient clinics and curative and emergency services, and upgrading the health service offered to patients who visit clinics at the medical center, where the following actions have been taken:
  - Creating an integrated information system for the Medical Sector that helps provide the highest quality medical service while maintaining economic operation.
  - Preparing a specialized work team to provide comprehensive, quality and efficient health care for the employees.
  - Establishing an integrated medical center in Al-Sawwah building, equipped with the latest medical equipment to provide distinguished and integrated medical service to the employees.
  - A plan has been developed to connect the medical center at North Cairo Stations Training Center in Al-Sawwah with the specialized clinics equipped at MoERE's headquarters in the New Administrative Capital.
  - Developing the system of pharmacies and delivering medicines at homes of pensioners for patients' convenience.
  - Establishing an internal unit for complaints from EEHC employees to study them and work to resolve them.
  - Re-evaluating medical contracts, where all contracts with hospitals, medical centers and pharmacies were reviewed and negotiations were made to obtain the best terms, and new hospitals were contracted to provide distinguished service to the employees.



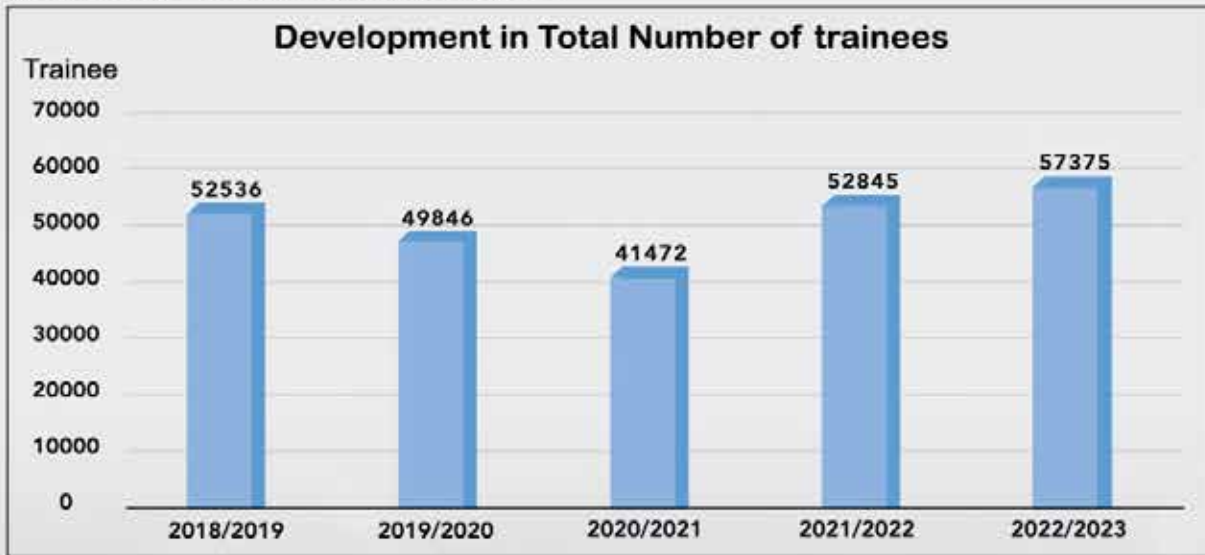


## Training & Capacity Building

The strategic goal of training is to participate in the Company’s success and continuity by way of developing an appropriate training strategy that maintains high level of skills, competitive capabilities and distinctive performance of employees, where the following activities were implemented during the FY 2022/2023:

### A. Staff Training:

Technical, managerial , leadership and specialized training programs, seminars and workshops were implemented for the benefit of the employees of EEHC, its subsidiaries, and MoERE’s headquarters through the Leadership Development Center (LDC) of the Holding Company, the training centers of affiliated companies and other external centers, as follows.



### B. Postgraduate Studies:

Out of the keenness of EEHC and subsidiaries on continuous development through scientific research and postgraduate studies in the various fields (engineering, medical, financial and administrative), a number of (23) employees of EEHC and subsidiaries were enrolled in postgraduate studies for the year 2022/2023 .

### C. Training of Others in Support of Social Responsibility:

- A summer training program was conducted at EEHC and subsidiaries for (7310) students of faculties of engineering, higher institutes, faculties of commerce, and higher industrial education.
- With regard to co-education industrial classes under the agreement concluded with the Ministry of Education, their number of graduates reached (162) with (137) enrolled students during the year 2022/2023.

### D. Training from Inside and Outside the Electricity Sector in Egypt:

A number of (615) trainees from affiliated companies were trained in specialized technical training courses and seminars within the training needs of the companies, their data is as follows:

- Training a number of (55) trainees from subsidiaries in two training courses, and
- Organizing (21) seminars and workshops for (560) participants from subsidiaries and external companies.





### H. Marketing of Training Capabilities:

Within the framework of the strategy pursued by EEHC to maximize cooperation with Arab and African countries in the field of training and capacity building, Distinctive training courses were implemented for (236) trainees from Arab and African cadres through direct cooperation or through cooperation with international donors, as follows:

Name of Project / Institution	Number of Courses	Number of Trainees	Country of Participant
Cooperation in the Field of Training with African Countries	6	84	Nile Basin & Horn of Africa Countries
African Network of Centers of Excellence affiliated to the Association of Power Utilities of Africa (APUA/ANCEE)	1	19	Multiple African Countries
EGENCO	1	2	Malawi
ZESCO	2	15	Zambia
Japanese International Cooperation Agency (JICA)	1	14	State of Iraq (Kurdistan Region)
Cooperation with the Egyptian Agency of Partnership for Development (EAPD) of the Ministry of Foreign Affairs of Egypt	1	21	Multiple African Countries
Rural Electrification Authority	4	81	Tanzania

- Also, a Protocol of Cooperation in the field of training and capacity building was signed between EEHC and Faculty of Engineering, Ein-Shams University, and Sadat Academy.





## Leadership Development Center of the Electricity Sector

Stemming from the keenness on early detection of elements qualified for leadership and preparation of second-row leaders, the Leadership Development Center (LDC) was established in 1995 to achieve a mission represented in "Preparing a new generation of leaders who are capable through their knowledge, behaviors and experience to achieve the Sector's mission".

The achievements of the LDC in 2022/2023 are represented in the following:

- Preparing and qualifying a second row of leaders capable of keeping pace with the challenges and ambitions of the Electricity Sector, where the two batches (34) and (35) of the Leadership Development Program graduated.
- Granting ISO 9001/2015 Certificate by SGS of the United Kingdom for a period of three years 2023/2025 to the customer service center of 1rd and 5th Settlement, New Cairo, affiliated to North Cairo Electricity Distribution company.
- Holding courses in "Disseminating Measures of Integrity and Transparency Values and Awareness of the Risks of, and Means to Prevent, Corruption" in implementation of the recommendations issued by the National Anti-Corruption Committee.
- Developing and upgrading capabilities of the employees who are moving to the New Capital in the field of English language and computer.
- Additionally, consultancy works were provided for the renewal of ISO 9001/2015 Certificate for the training centers of Upper Egypt, Middle Egypt, and South Delta Electricity Distribution Companies, and Upper Egypt, East Delta, and Hydro Power Electricity Production Companies.
- The total revenues to the Center amounted to about EGP 7 (seven) million in 2022/2023.







### Development of Regulations & Organization Structures of EEHC & Subsidiaries

In order to keep up with all developments on work system, some existing regulations and procedures have been issued or modified to create a stimulating work environment, and these are represented in the following:

- In light of recent developments and to keep pace with the economic changes, EEHC Board of Directors approved the amendment to Article (42) of the Unified Financial Regulation.
- Preparation of the implementation rules for both the Unified Regulation for Contracts & Procurement and the Financial Regulation has already been completed, and the necessary arrangements are underway for their approval and putting them into effect.
- The implementation rules for the Unified Regulation for Travel Allowances & Transportation Expenses are being finalized.
- Establishing a unified electronic system called "Integrated System for Human Resources" that aims to provide data and information and help decision makers keep up to date with any changes.
- Continuously updating the website of EEHC to keep citizens informed of the decisions related to providing services to them and the documents required to provide those services and to enhance customer participation in the strategies, decisions and achievements of the Electricity Sector.
- Activating work in several committees to verify the extent of commitment to implementing the governing regulations, where a committee was formed for examining grievances of incumbents of leadership and peer jobs in accordance with the Violations & Penalties Regulation. Also, a committee to review judicial police works was reconstituted, headed by the legal advisor to EEHC, to review a random sample of reports and match the documentary cycle and sudden inspection with the application of controls through a review from the beginning of writing the report until reconciliation, which had an impact on developing and activating the judicial police work mechanisms.
- Structuring the customer service department at the level of Distribution Companies seeking to develop customer service centers, with continuously evaluating the employees to provide the competencies listed in the job description cards.
- Activating the work of many departments that aim to provide better service to citizens, such as the General Dept. of Smart Services, Customer Happiness, and Digital Transformation.
- Working to publish work regulations on the websites of EEHC and subsidiaries and update 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 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.
- Developing and enhancing the capabilities of the employees moving to work in the New Administrative Capital on the participatory programs that are being implemented in the New Capital, namely HR Department and Content & Correspondence Department.
- A plan has been developed to qualify technical and administrative cadres for leading positions in a way that contributes to supporting current leaders in various locations, in addition to qualifying a second raw of leaders capable of assuming responsibility in a way that achieves the Company's vision and keeps pace with the State's Sustainable Development Strategy 2030.





- A performance evaluation system has been activated for incumbents of leading positions in EEHC and subsidiaries, based on the principle of "management by objectives" and is taken as reference in making the decision of whether an incumbent of a leading position should continue in the job or not, in accordance with what is stated in the Personnel Regulation, which requires a biennial evaluation of the incumbents of leadership positions according to certain criteria.
- Concerted efforts of EEHC Board of Directors are exerted to enhance competitiveness and prepare electricity companies for the competitive market, where the Board holds periodical meetings with the subsidiaries to evaluate the financial, administrative, commercial, and technical performance and follows up on procedures for improving performance.

### Audit Committee

During the FY 2022/2023, five meetings were held to discuss multiple topics as follows:

- Reviewing the budget of EEHC for FY 2023/2024 and recommending its presentation to the Company's Board of Directors to consider its approval.
- Assessing the extent of implementing the compliance plan and following up the Compliance Department reports.
- Studying and probing the development of methods and techniques for managing risks and crises facing EEHC and its subsidiaries.
- Discussing the Financial Sector's report on the final financial statements and their supplementary clarifications, as well as the report of the Central Auditing Organization, and recommending their presentation to the Company's Board of Directors for approval in preparation for presentation to the General Assembly.
- Reviewing the consolidated financial statements and final accounts of EEHC and its subsidiaries, discussing the financial report and the complementary clarifications thereon, and recommending their presentation to the Company's Board in preparation for sending them to the Accountability State Authority (formerly, Central Auditing Organization).

### Governance

Within the framework of the efforts undertaken by EEHC towards activating and applying the principles of governance, as well as preparing electricity companies for the competitive market, the efforts of the Board of Directors of the Holding Company are therefore combined with the executive management to implement the principles and rules of "Governance" through the following:

- Implementing training and educational programs at the service centers which undergo a development process in the distribution companies to spread the culture of compliance and educate employees about the danger of corruption and the importance of combating it, **with the aim to:**
  - Improving the quality of services provided by DISCOMs to all customers, and
  - Marketing for all services rendered by DISCOMs.
- Finalizing the final report on reviewing the extent of compliance by the legal sector with the application of the Unified Violations & Penalties Regulation.
- Starting the Technical Assistance Project to Support the Implementation of Key Measures for Reforming the Energy Sector in Egypt, funded by the French Development Agency (AFD).
- The preparation of a Procedures Manual for the General Dept. of Internal Auditing at EEHC and subsidiaries is currently being completed.
- Completing the preparation of the unified procedural manual for quality in customer service centers in electricity distribution companies.







### Sports Activities

- Sports play an essential role in raising the level of physical and psychological health and spreading the spirit of cooperation and optimism among employees, leading to increased production. EEHC and subsidiaries work hard on developing all available sports activities, where such activities include rowing, futsal, basketball, the athletics team, sports schools, and Ramadan football tournaments.
- **Over the past years and under the patronage of H.E. the Minister of Electricity & Renewable Energy, the Electricity Sector succeeded in realizing many achievements, including:**
  - Promotion of each of the teams (5-a-side football for pioneers, plastic arts, folk arts) of Upper Egypt Electricity Distribution Company to the Republic Corporate Championship No. (56), held in Port-Said in September 2023.
  - Promotion of each of the teams (para-athletics, athletics, karate) of Alexandria Electricity Distribution Company to the Republic Corporate Championship.
  - West Delta Electricity Distribution Company won several advanced positions in the Republic Corporate Championship 2022, with a total of 32 various medals, as well as the 1st place from the Egyptian Bodybuilding Federation and 1st place for commitment and sports behavior, and the teams participating in the various games advanced to the final qualifiers for the Republic Corporate Championship 2023.
  - In addition, most of EEHC subsidiaries won so many medals and cups in various sports fields.
  - The various sports teams of North Cairo Distribution Company also achieved 1st places in most of the games participated in the Republic Corporate Championship, as well as some representatives of the Company received the Republic President's decoration of 1st class, namely for example, captain Aladdin Hassan Kamel, captain Ismail Senoussi, and captain Sameh Abdul-Aziz Gad.
- In continuation of the efforts exerted by EEHC to provide and develop sports care for all employees permanently and sustainably, a plot of land was purchased in the New Capital with an area of 21 acres for the purpose of constructing a new club for Electricity Sector's employees and construction works have begun, and the club is scheduled to be completed in the year 2024/2025.



### Community & Environmental Responsibility

- The Holding Company and its subsidiaries actively participate in social service in diverse fields, like for example:
  - I. Decent Life for Villages the Most in Need:**
- Guiding studies of affiliated distribution companies in respect of Phase I of the Presidential Initiative "Decent Life" that aims to develop the Egyptian rural villages with a number of 52 centers nationwide were reviewed and sent to the executing agencies (Engineering Authority of the Armed Forces and reconstruction agencies of the Ministry of Housing, Utilities & Urban Communities), provided that the Project Consultant prepares the design drawings and have them approved by the Distribution Companies and participates in meetings relevant to this Initiative.





- A periodic presentation of Decent Life Project was prepared (including the approval status of drawings, designs and building materials, status of pass by and follow up committees, status of implementation, villages, centers, governorates, companies), as well as photos of what was carried out in accordance with the technical rules and photos of the most important observations monitored by the inspection committees of EEHC and distribution companies.
- The inspection of school roofs was completed, and it was found that solar stations could be installed for 439 schools out of 3284 schools in total, with an aggregate capacity of 3624 KW, for generating solar energy within the national project Decent Life. Coordination is underway with the New and Renewable Energy Authority (NREA) in this regard.

## II. Active Participation with the Community:

- Taking a decision not to raise electricity selling prices during FY 2022/2023 and until 1.1.2024.
- Serving the national objectives of developing centers and villages by manufacturing low voltage poles for electricity distribution companies according to instructions of the Holding Company.
- Participation of firefighting and ambulance vehicles at the power plants of affiliated companies in firefighting operations or rescuing injured people in neighboring villages or on highways.
- Launching medical campaign for early detection of breast tumors for women in cooperation with the Women's Health Initiative at the Ministry of Health in Sabtiyah district.
- Sending (12) medical convoys to (10) governorates to provide medical service to all employees of the Electricity Sector, especially to remote areas that lack adequate health service.
- Active participation in the development of local community by holding specialized courses, computer and English language courses for employees' families to develop their skills.
- Continuing cooperation with the Ministry of Higher Education to train students of universities and governmental and private institutes at the training centers of the Holding Company and its subsidiaries so that to serve the labor market.
- Graduating trained generations from industrial schools (3-year and 5-year system).
- Arranging field visits for students of technical schools to power plants to develop their sense of affiliation, inform them of the achievements made, and to acquaint them with the new technologies in the field of electricity production.

## III. Preserving Environment and Reducing Carbon Emissions:

- Preserving environmental compatibility of power plants in compliance with the Environment Law No. 4 of 1994.
- Adopting the emergency plan to combat Nile water pollution for power plants located on the Nile River through the "Environmental Crises & Disasters Sector" of the Egyptian Environment Affairs Authority (EEAA).
- Linking emissions from power generation plants with the national emissions monitoring network of EEAA, which helps monitor carbon emissions and the extent of the plants' commitment to the goal of reducing these emissions.
- Preserving the waters of the Nile River by exploiting treated wastewater and treated industrial wastewater to irrigate non-fruit trees in the vicinity of power generation plants.
- Reducing the amounts of carbon emissions by increasing the efficiency of energy production and reducing rates of fuel consumption as a result of increasing the participation rates of combined generation, especially Siemens power plants, in the total thermal generation.
- Signing of (23) memoranda of understanding for the production of green hydrogen and green ammonia with the largest global and local alliances, in addition to signing (9) framework agreements with developers in this field, provided that these projects will be implemented in several phases during the coming years.
- In the field of energy production from solid waste, an agreement was signed for "power purchase and connection to the electrical network" for a station converting municipal solid waste into electrical energy within the scope of South Cairo Electricity Distribution Company with a capacity of 30 MW, and a study is being conducted to construct another station in the scope of Alexandria Distribution Company.
- In the field of electric mobility, an electrical quality measurement device has been installed in three DISCOMs, namely North Cairo, South Cairo, and Alexandria, and a technical study was conducted on the elements of the electrical network for charging units by alternating current (AC) and direct current (DC) aiming to spread and scale up the use of electric vehicles for its positive impact on environment preservation.









# Medical Services Company

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.

Company Name	Geographical Zone	Head Office	Capital (m. EGP)	Ratio of Capital to EEHC's Investments	Address	Phone & Website
Medical Services Company (MSC)	All Governorates of Egypt	Nasr City, Cairo	266.000	0.65%	Kilo 4.5 on Suez Road, Thawra St. Extension, Cairo	02-26786179 Hotline: 15637 <a href="http://www.eehc.gov.eg/msc">www.eehc.gov.eg/msc</a>





### Vision of MSC:

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

### Mission:

- Provide privileged and secure medical services of high quality at reasonable cost with a commitment to development, improvement, innovation and optimal use of available resources through qualified medical cadres and state-of-the-art technologies and contribute to the establishment of health service with all its contents to raise the level of health care for the employees of Electricity Sector and the Egyptian community as a whole.

### Objectives of the Company:

- Make inclusive development of the health system and medical services provided, in quality and quantity, with due consideration to the economic cost and financial return on the services, while facilitating the means of measurement and assessment.
- Unify the standard of medical services for all employees at all levels.
- Sustain development and training to keep pace with the latest systems by way of raising the efficiency of all elements providing the service (human resources, equipment, and infrastructure).
- Introduce an information system that links all medical sectors of the Company.
- Raise health education for all employees of the Electricity Sector.
- Work on equipping the Company's hospitals and qualifying them for the Egyptian quality accreditation as a first step, then qualifying them for JIC accreditation for medical services' quality.
- Preserve the environment in line with national & global standards and community participation.
- Establish a research and development unit (medical - professional) to enhance existing competencies to ensure continuous development and sustainability.







## Medical and Service Sectors of the Company

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

During the year 2022/2023, the Company took multiple actions, including for example:

- Upgrading the level of primary medical care services (preventive, curative and educational) and expanding the provision of integrated services.
- Improving the level of service provided to outpatients visiting clinics of the companies' medical centers and providing distinctive service.
- Completing preliminary designs for the development of Electricity Hospitals in Ismaileyah and Mansoura.
- The High Dam Hospital in Aswan is being developed and transformed into an advanced center for one-day surgeries.
- Inaugurating several specialized clinics in Cairo (Roxy - Nasr City), Minya, Alexandria and Assiut.
- A number of (12) medical convoys were sent to governorates to provide medical services to all employees in the electricity sector, especially remote areas that lack adequate health service.
- Organizing a medical campaign for early detection of breast tumors for women in cooperation with the Ministry of Health in Sabtiyah district, Cairo.
- Investigating complaints of electricity companies' patients from contracted medical entities and conducting field evaluation of the medical services provided to employees.
- Organizing the first student conference of the Summit Nursing Institute entitled "The Buds of Summit Institute keeping Pace with Modern Trends in Nursing Education".
- Organizing many scientific days, seminars and conferences with the aim of raising the scientific level of doctors, pharmacists and nursing staff members.
- Taking many measures to improve the Company's information technology systems.







## Commercial Activity

EEHC undertakes the management of its securities portfolio and the investment of its funds in a way that enhances the management of available cash liquidity to secure the payment of the inevitable obligations, including petroleum sector dues, loan and wage burdens, and to arrange the necessary financing to implement investment projects in the Holding Company and its subsidiaries.





## Electricity Repricing

The globally recognized pricing policies aims to achieve the following:

- 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, EgyptERA (Regulator) 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 tariff, as amended by the Decree no. 2259 of 2015.
- On 28/4/2020, a decision was issued by the Regulator in its 9th session in FY 2019/2020 approving the electricity selling tariff for the following 5 years as from 2020/2021.
- On 9/6/2020, the Minister of Electricity & Renewable Energy's Decree No. 100 of 2020 was issued, which stated in Article (1) that: "The electricity tariff and customer service charge shall be determined for the coming 5 years starting 1/7/2020 onwards."
- In view of the economic changes that the country encounters and to reduce the economic burdens on citizens, a ministerial decree was issued to postpone the implementation of tariff for selling electrical energy which was scheduled for the 3rd year according to the Decree No. 100 of 2020, for a period of one year, starting from the beginning of July 2022 until the end of June 2023, and to maintain the tariff of 2021/ 2022, with the Ministry of Finance bearing the value of the difference.
- Then, a ministerial decree was issued to postpone the implementation of the prices for the 4th year of the Ministerial Decree No. 100 of 2020 from the beginning of July 2023 until the end of December 2023.







The following table illustrates the electricity tariff and customer service charge for different uses for the two years until 31 December 2023.

Purpose of Usage	Demand Charge <sup>(1)</sup> LE / kW/m.	Energy Average Price <sup>(2)</sup> Piaster / kWh	Off Peak <sup>(3)</sup> Piaster / kWh	On Peak <sup>(3)</sup> Piaster/ kWh	Customer Service Charge LE / Cons. / m.
<b>Ultra-High Voltage (220 - 132 kV)</b>					
Kima	-	72.0	-	-	35.0
Metro	-	100.0	-	-	
Other Subscribers	40.0	105.0	96.9	145.4	
<b>High Voltage (66 - 33 kV)</b>					
Metro	-	105.0	-	-	35.0
Other Subscribers	50.0	110.0	101.5	152.3	
<b>Medium Voltage (22 - 11 kV)</b>					
Irrigation Purposes	60.0	99.90	92.2	138.3	35.0
Water & Sanitation Companies	-	120.0	0.0	0.0	
Other Subscribers	60.0	115.0	106.2	159.2	
<b>Low Voltage (380 V)</b>					
Irrigation	-	95.0	-	-	4.0
Other Subscribers	-	125.0	-	-	15.0
Public Lighting	-	125.0	-	-	

Household Usages	
Consumption brackets (kWh / month)	Piaster / kWh
0 - 50	48.0
51 - 100	58.0
Consumption from 101 to 650 kWh	
0 - 200	77.0
201 - 350	106.0
351 - 650	128.0
Consumption more than 650 kWh	
0 - less than 1000	128.0
0 - 1000 and more	145.0

Commercial Stores	
Consumption brackets (kWh / month)	Piaster / kWh
0 - 100	65.0
Consumption from 101 to 250 kWh	
0 - 250	120.0
Consumption from 251 to 1000 kWh	
0 - 600	140.0
601 - 1000	155.0
Consumption more than 1000 kWh	
0 - 1000 and more	160.0

Customer Service Charge EGP/kWh	
Household Usages (kWh / month)	LE / Cons. /Month
0-50	1.0
51-100	2.0
101-200	6.0
201-350	11.0
351-650	15.0
651-1000	25.0
More than 1000	40.0
Zero reading & closed units	9.0
Commercial Stores	
0-100	5.0
101-250	15.0
251-600	20.0
601-1000	25.0
More than 1000	40.0
Zero reading & closed units	9.0

\* Prices are based on a 0.92 Power Factor.

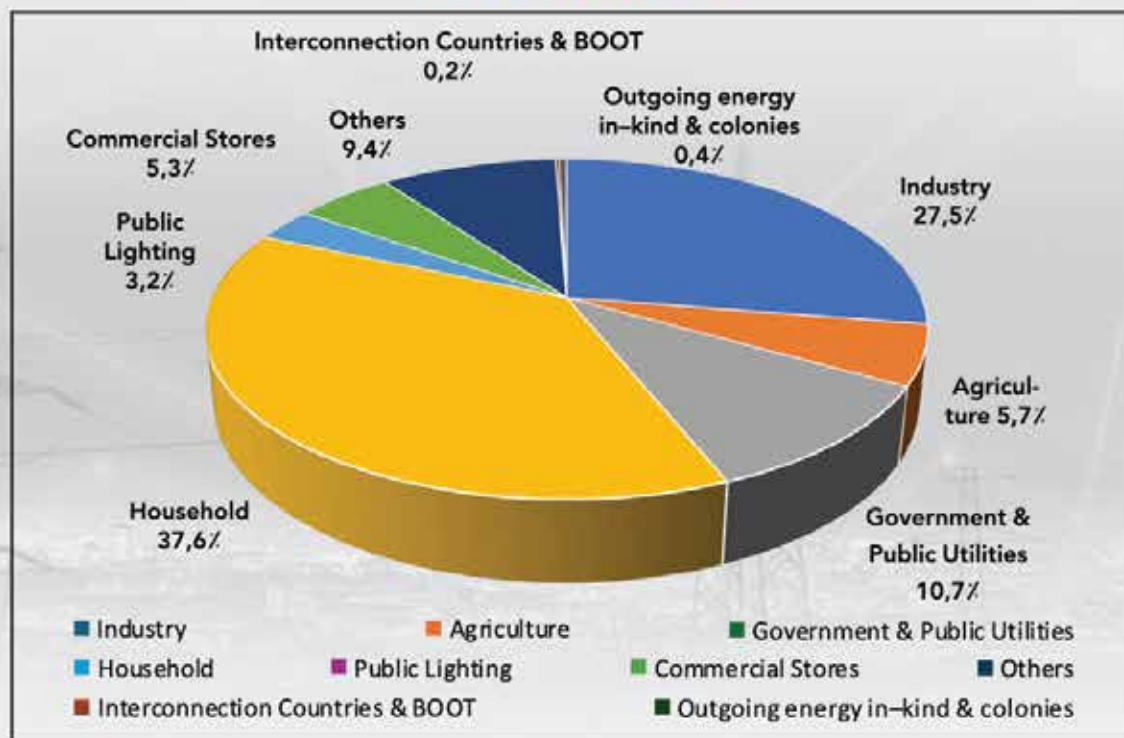
- 1- The demand charge is based on the maximum demand of a consumer over 3-month period.
- 2- In case no meters are available, the applied tariff is the average energy price.
- 3- The ToU tariff is applied in accordance with the smart meter application program and the peak hour duration is 4 hours starting at a time defined by the Ministry of Electricity and Renewable Energy.



## Quantities of Sold Energy According to Purposes (2022/2023)

Purpose	Distribution Companies		Transmission Company		TOTAL	
	Quantity (GWh)	Percentage (%)	Quantity (GWh)	Percentage (%)	Quantity (GWh)	Percentage (%)
Industry	22258	16.2	24190	78.2	46448	27.5
Agriculture	7723	5.6	1817	5.9	9540	5.7
Government & Public Utilities	17283	12.5	782	2.5	18065	10.7
Household	63415	46	0	0	63415	37.6
Public Lighting	5361	3.9	0	0	5361	3.2
Commercial Stores	8919	6.5	0	0	8919	5.3
Others	12778	9.3	3171	10.2	15949	9.4
Interconnection Countries & BOOT	0	0	349	1.1	349	0.2
Outgoing energy in-kind & colonies	0	0	635	2.1	635	0.4
Grand Total	137737	100	30944	100	168681	100

### Energy Sold on all Voltages According to Usage (%) for FY 2022/2023







## Development in Total Energy Sold on All Voltages Classified According to Usage (GWh) for FY 2022/2023

Type of Usage	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Industry	44416	41147	42123	45701	46448
Agriculture	7211	7373	7923	8639	9540
Utilities	6578	6487	6866	7114	7417
Public lighting	5282	4731	5463	5879	5361
Gov. Entities	7705	6905	7472	9066	10648
Household	60115	61542	62393	62912	63415
Stores & Others	19651	19045	20022	22720	24868
Interconnection & BOOT	568	891	1427	1501	1247
Outgoing energy in-kind & Colonies	382	396	487	453	635
Alfa Energy	0	0.07	0	0	0
<b>Grand total</b>	<b>151908</b>	<b>148517</b>	<b>154176</b>	<b>163985</b>	<b>169580</b>





## Financial Position of EEHC and Subsidiaries

Description		2021/2022	2022/2023	Variation %
Net Fixed Assets	Billion EGP	456.0	568	24.55
Inventory	Billion EGP	44.8	56.1	25.22
Cash and Banks	Billion EGP	26.3	24.8	(5.7)
Net Working Capital	Billion EGP	(7.2)	(42.4)	(488.89)
Equity	Billion EGP	138.0	146.1	5.88
Total Revenues (excluding revenues from exchanged energy)	Billion EGP	203.5	220.3	8.25
Total Costs & Expenses (excluding expenses of exchanged energy)	Billion EGP	179.4	228.5	27.35
Net Profit (Loss)	Million EGP	24.1	(8.2)	(65.98)
Total Executed Investments	Billion EGP	18.7	18.5	(1.07)
Financing burdens (installments & Interests)	Billion EGP	48.9	60.87	24.5
Balances of Loans	Billion EGP	285.5	378	32.40

### Most Significant Financial Indicators:

- The current ratio decreased to 0.82 times against 0.96 times in the previous financial year as a result of the increase in current liabilities:
- The liquidity ratio decreased to 0.59 times against 0.71 times in the previous financial year as a result of the increase in current liabilities and a decrease in cash in hand and at banks.
- The worker productivity improved to 1496.98 EGP/worker against 1337.72 EGP/worker as a result of the increase in revenues of the current activity and the decrease in number of workers.
- The debt-equity ratio (D/E) increased to 1:2.59 against 1:2.07 in the previous financial year as a result of the increase in loan balances largely due to revaluation of loans in accordance with the change in foreign currency exchange rates in addition to drawings from loans being disbursed.
- The ratio of total liabilities to equity increased to 456.91% against 382.31% in the previous financial year as a result of the increase in total liabilities.





## Companies Having Capital Shares by EEHC

Name of Company	Paid up capital	Percentage of Capital Participation
The Egyptian Company for Manufacturing Electrical Insulators	72.5 Million EGP	4.97 %
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)	5 Million EGP	20 %
ARABIAN Consultancy Engineering Services Company (ACESCO)	3 Million USD	49 %
Egyptian Syrian Company for Studies and Engineering Consultations *	20 Million SYP	50 %
African Company for Electrical and Mechanical Projects (Libya)	5 Million LYD	10 %
El-Nasr Transformers & Electrical Products (ELMACO)	51.3 Million EGP	30.77 %

\* Investments in the Egyptian Syrian Company for Studies & Engineering Consultations were reduced due to the prevailing circumstances in Syria by an amount of EGP 1.299 million, in accordance with the decision of the Board of Directors of EEHC in its 9th session of the year 2023 on 13/6/2023.





## Consolidated Balance Sheet of EEHC and Subsidiary Companies as at 30.6.2023

(Amounts in 1000 LE)			
comparative year	ITEM	Net Value	Total
<b>ASSETS</b>			
<b>Non-Current Assets</b>			
458044833	Fixed Assets	567986052	
26649517	projects in progress	28960555	
284328	Long-term investments	283086	
8050243	Clients, notes receivable & debit accounts	17137075	
0	Leased Assets	2215	
281750	Other Assets	279035	
<b>491310471</b>	<b>Total Non-Current Assets</b>		<b>614648019</b>
<b>CURRENT ASSETS</b>			
333	Retained assets for sale	122781	
44812591	Inventory	56124152	
103075060	Clients, notes receivable & debit accounts	117264158	
0	Current Financial Investments	682295	
26285142	Cash	24778202	
<b>174173126</b>	<b>Total Current Assets</b>		<b>198971588</b>
<b>665483597</b>	<b>Total Assets</b>		<b>813619617</b>
<b>Equity</b>			
70589370	Paid-up Capital		85246218
<b>Reserves</b>			
18232321	Legal Reserve	18321891	
2319955	Capital Reserve	2759088	
98701	Other Reserves	98597	
46035	Revaluation Surplus	46035	
46691012	Carried Profit (Loss)	39624362	
67386024			60848673
<b>137977394</b>	<b>Total Equity</b>		<b>146096191</b>
<b>NON-CURRENT LIABILITIES</b>			
<b>Non-Current Loans &amp; Debt Tools</b>			
208480227	Long-Term Loans From Banks	271893031	
36821901	Long-Term Loans From Other Entities	56936936	
245302128			328829667
0	Profits not yet recognized		2752208
<b>Other Non-Current Liabilities</b>			
100873016	Other non-current Liabilities		94589511
<b>346175144</b>	<b>Total Non-Current Liabilities</b>		<b>426171686</b>
<b>Current Liabilities</b>			
4911498	Provisions	5392483	
0	Overdraft	961	
49214449	Installments of non-current liabilities	58074726	
127205112	Suppliers , Notes Payable & Credit Accounts	177883570	
<b>181331059</b>	<b>TOTAL CURRENT LIABILITIES</b>		<b>241351740</b>
<b>665483597</b>	<b>TOTAL EQUITY &amp; LIABILITIES</b>		<b>813619617</b>

Board Member  
Financial , Commercial & Financing Affairs

*N. Katary*

ACC. Nadia Abdel-Aziz Katary

Chairman

*G. Moustafa*

Eng. Gaber Dessouki Moustafa





## Consolidated Income Statement of EEHC and Subsidiary Companies for the period from 1.7.2022 to 30.6.2023

(Amounts in 1000 LE)			
Comparative Year	Item	1.7.2022 to 30.6.2023	
	<b>Revenues of Continuous Processes:</b>		
626628	Net Sales of Finished Products (Other than Electricity Sales)	421509	
91428	Net Sales of Finished Products (Energy)	66948	
170633738	Net Sales of purchased goods (Energy)	179278065	
3235	Net Sales of purchased goods (Lamps)	1665	
2892662	Rendered Services (customer service)	3129730	
5503886	Rendered Services (Other)	9084732	
4022032	Revenues of Operation for Others	6005361	
12922	Medical Services Revenues	13239	
55100	Other Revenues of Current Activity	42075	
	<b>Grants and Subsidies:</b>		
2854607	Grants and Subsidies (MOF support in gas price difference)	0	
4001633	Grants and Subsidies (Decrease in Energy prices for Industry)	4050953	
2223940	Grants and Subsidies (MOF share in the interests of the two ambitious plan loans)	2993066	
0	Companies' share of subsidy due by MOF due to non-price-increase during the FY2022/2023	4323019	
1014	Grants and Other Subsidies	2029	
<b>182922825</b>	<b>Total Revenues of Continuous Processes</b>		<b>209423309</b>
	<b>Less:</b>		
-152626708	Cost of Production and Purchasing Sold Units	-205337168	
-165209	Interests of Lease Financing Loans	-978333	
-371575	Amortization of Lease Financing Assets	-668668	
<b>39559336</b>	<b>Gross Profit (Loss)</b>		<b>2440940</b>
-6296357	Costs of marketing (Selling & Distribution)	-7098135	
	<b>Administrative Expenses:</b>		
-46504	Lump sum Salaries, Attendance & Transport Allowances for Board Members	-50206	
-7240389	Other Administrative Expenses	-7785294	
-3409446	Provisions (other than Depreciation and Fall of Inventory Prices)	-2455240	
170013	Provisions No Longer Required	182521	
-7650658	Profits (Losses) of Foreign Exchange Differences	-1816279	
1364108	Capital Profits (Losses)	437806	
-56	Bad Debts	-547	
0	Profits (Losses) of Selling Financial Investments	69672	
0	Profits (Losses) of Evaluation & Reclassification of Financial Investments	63356	
7048640	Other Revenues	6413288	
-506783	Other Expenses	-1070103	
<b>22985793</b>	<b>Result of Operating Activities</b>		<b>-10674221</b>
1034125	Financing Revenues	2857104	
-259226	Financing Expenses	-293252	
<b>1674899</b>	<b>Net Financing Cost</b>		<b>2563852</b>
<b>24606892</b>	<b>Net Profit (Loss) Before Income Taxes</b>		<b>-8110369</b>
-600719	*Income Taxes		-129833
<b>24059973</b>	<b>Net Profit (Loss) From Continuous Processes After Income Taxes</b>		<b>-8240202</b>
0	<b>Net Profit (Loss) From Non-Continuous Processes After Income Taxes</b>		<b>0</b>
<b>24059973</b>	<b>Net Profit (Loss)</b>		<b>-8240202</b>

\* Income Taxes belong to South Cairo electricity distribution company and Medical Services company.

**Board Member**  
Financial, Commercial & Financing Affairs

N. Katry  
ACC. Nadia Abdel-Aziz Katry

**Chairman**

  
Eng. Gaber Dessouki Moustafa