Arab Republic of Egypt
Ministry of Electricity & Renewable Energy

Egyptian Electricity Holding Company






Annual Report
2015 / 2016

Contents

Vision

World Class Leadership and Excellence of a 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 standards, 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.

Egyptian Electricity Holding Company

(EEHC)

The Egyptian Electricity Holding Company (EEHC) is an Egyptian Joint-stock Company established pursuant to law number 164 for the year 2000 and articles number 2,7 and 11 (excluding part 11) of law number 12 for the year 1976 stipulating the establishment of the Egypt Electricity Authority and law number 159 for the year 1981.

Headquarter	Authorized capital (Billion EGP)	Equity Capital (Billion EGP)	Address	Tel.
Cairo	16.573	25.00	Abbassia, Cairo	02/22616487 02/22616306 fax 02/22616512

Objectives:

1. • Providing electrical energy at different voltage levels for all uses with high efficiency and suitable prices.
2. • Conducting planning, studies and design in the field of competence of the company and its subsidiares.
3. • Implementation of thermal power plants projects for producing the electric power.
4. • Implementation of the electric energy of transmission distribution projects.
5. • Management of the National Dispatch Center for optimum operation production, transmission and distribution of electrical energy.
6. • Purchase electical energy produced from authorized local and foreign investors and sell it through the ultrahigh networks.
7. • Management, operation and maintenance of electricity transmission and distribution networks at all voltage levels, selling the electrical energy at these voltage levels throughout the country and the optimal usage of these networks.
8. • Regulate the load distribution on Extra and high voltage networks throughout the country.
9. • Implementation of the inter connection projects and the exchange of electric energy with other countries, and the sale and the purchase according to the need of electrical networks interconncted.
10. • Conducting researches and tests of the electrical equipment at different voltage levels.
11. • Carrying out consultancy and services work in the field of the electic energy producation, transmission and distribution locally and internationally.
12. • Production and sale of desalinated water.

Organizational Structure for EEHC

Minister of Electricity and Renewable Energy
Chairman of General Assembly for
Egyptian Electricity Holding Company
Dr.Eng Mohamed Shaker El Markaby

Chairman of Board of Directors
Chairman of General Assembly for Affiliated Companies
Eng. Gaber Dessouki Moustafa

- EEHC Board Member for Planning, Research & Electric Service Companies Affairs — **Eng. Mohamed Abd El Moneam El Tablawy**
- EEHC Board Member For Financial, Commercial and Financing Affairs — **Acc. Nadia Abd El- Aziz Katary**
- EEHC Board Member for Distribution Companies Affairs — **Eng. Al Husseiny Ahmed El Far**
- EEHC Board Member for Production Companies Affairs — **Eng. Mahmoud Mohamed El Nakib**
- EEHC Board Member For HR, Training & Administration Affairs — **Acc. Abd Elmohsen Khalef Ahmed**

Distribution Companies

- North Cairo — Eng. Nagi Aref Mena
- South Cairo — Eng. Hossam El Din Hassan Afify
- Alex — Eng. Hamdy Mahros Okasha
- Canal — Eng. Mohamed Ahmad El Sayed
- North Delta — Eng. Ebtihal Ali Al Shafeey
- South Delta — Eng. Mohamed Ahmad Assal
- El- Behera — Eng. Mohamed Abd Al Alim Al Sotohy
- Middle Egypt — Eng. Medhat Eweis Khalaf
- Upper Egypt — Eng. Raafat Hussin Shamaa

Egyptian Electricity Transmission Company

Eng. Gamal Abd El Rehim Yassin

Production Companies

- Cairo — Eng. Mohamed Mokhtar Raghib
- East Delta — Eng. Ahmed Al Husseiny Al Siry
- Middle Delta — Eng. Mohamed Al Said Al Abd
- West Delta — Eng. Mohamed Abd Albaky Abo Sinna
- Upper Egypt — Eng. Ibrahim Al Shahat Ibrahim
- Hydro Plants — Eng. Mohamed Amr Ali

Board of Directors of EEHC

Eng. Gaber Dessauki Moustara
Chairman

Eng. Mohamed Abd El Meneem El Tablawy
EEHC Board Member for Planning, Research & Electric Service Companies Affairs

Eng. Al Husseiny Ahmed El Far
EEHC Board Member for Distribution Companies Affairs

Acc. Abd Elmohsen Khalaf Ahmed
EEHC Board Member For HR, Training & Administration

Dr. Moustafa Abd Al Khalik Abo Zeid
CEO Mechanical and Electrical Department, Ministry of Water Resources and Irrigation

Mr. Abd Al Naby Abd Al Aziz Mansour
Head of the Final accounts sector at the Ministry of Finance

Dr. Sherif Mohamed Ahmed Sosa
Chairman Ganoub El Wadi Petroleum Holding Company

Mrs. Mona Zaki Mohamed Ahmed
Head of Central Department for Electricity and Renewable Energy, Ministry of Planning

Acc. Nadia Abd El- Aziz Katary
EEHC Board Member for Financial,Commercial & Financing Affairs

Eng. Mahmoud Mohamed El Nakib
EEHC Board Member for Production Companies Affairs

Eng. Ahmed Abo Al Seoud
CEO Egyptian Environmental Affairs Agency

Dr. Mohamed Mousa Omran
First Under Secretary of State for Research and Planning, Ministrv of Electricitv and Renewable Energy

Mr. Hamed Abo Al Magd Mahran
Deputy Governor for Relations and Investment at the Central Bank of Egypt

Mr. Mohamed Abd Al Aziz Abd Al Fattah
MinisterAssistant, Ministry of International Cooperation

Mr. Adel Nazmy Ali Hassan
President of General Union of Workers in Public Utilities

Introduction

The Egyptian Electricity Holding Company (EEHC) and its affiliated companies are always keen to maintain a reliable infrastructure of the power system and are continuously working on improving its performance to ensure a sustainable supply of electricity and achieve economic and social development of the country.

Despite the great challenges that faced the Company, mainly the subsidized electricity tariff in addition to the burden caused by the high capital investments needed by production, transmission and distribution companies, the Company and its affiliated companies have succeeded in supplying electricity to different sectors of customers with high technical specifications and overcame the shortage of electricity that marked Summer 2015 with an adequate capacity reserve to meet the scheduled maintenance works and forced outages of generating units with a stability of transmission and distribution networks to the complete satisfaction of its customers who praised those achievements.

Main outstanding achievements of the year 2015/2016:

- Execution of the fast track power plants with a total capacity of 3636 MW at a total cost of US$ 2.7 Billion noting that execution was carried out ahead of schedule.
- Contracting with Siemens Company for the execution of three combined cycle power plants with a total capacity of 14400 MW and an efficiency of 60%, with a total investment of US$ 6.7 Billion, of which 3200 MW will be implemented by the end of 2016 and the total project is expected to be implemented by the end of May 2018.
- By contracting with Siemens Company and its partners for the execution of the three power plants with a total capacity of 14400 MW, converting some gas units to combined cycle and implementing the remaining 5-year plan (2012-2017) power projects, the total added capacities for the 5-year plan will reach 27400 MW with estimated investment cost of US$ 17.8 Billion. It is expected to add the last power plant of this plan by 2019/2020.
- Coordination with the petroleum sector for securing supply of different types of needed fuel.
- During the first quarter of 2016, an agreement was reached regulating contractual conditions for the power purchase agreement for Dairut combined cycle power plant 2250 MW through BOOT scheme waiting for a final solution to the issue of the government guarantee agreement being an issue to most of the private sector power plants projects, in addition to the agreement concerning fuel supply to the project.
- Cooperation with one of the investment companies to execute a coal fired 2×660 MW power plant as a first stage at Oyoun Moussa through BOO scheme and issue tenders for the steam power plants at each of Cairo West and Assiut super critical operating system, in addition to rehabilitation of Walidia steam power plant to decrease the rate of fuel consumption and improve performance this will be achieved through a contract with a private sector company that will rehabilitate the power stations and share the savings of fuel consumption.
- Announcing of the second phase of the feed-in tariff program for projects of new and renewable energy (proposed projects 2000 MW wind +2300 MW solar PV).

- Prepare a plan for reinforcing the extra and high voltage networks to evacuate the large amount of energy generated from the fast track power plants projects, Siemens projects and other power plants projects.
- Succeed to get the best financing terms for the new power projects of the plan (2012-2017) at an average external interest rate of 1.98 % with repayment periods of 12 to 20 years and a grace period of 3 to 5 years in addition to best terms of local financing.
- The electrical interconnection between Egypt and Saudi Arabia is expected to be partially operated in the last quarter of 2019 and fully operational by 2020.

Enhancing Energy Efficiency and Conservation programs through the following:

- Mounting of 1.2 million high pressure sodium luminaires 100-150 watt and LED luminaires by the end of 2016 out of the planned number of 3.9 million luminaires.
- Distributing more than 9.5 million LED lamps all over the country to the residential customers by the end of October 2016, out of planned number of 13 million lamp through the electricity distribution companies.
- Implementing energy efficiency projects at 28230 governmental buildings.
- Procurement, installation and operating 250 thousand smart meters in cooperation with the National Defense Council as a pilot project within the geographical area of six distribution companies to be upscaled at the level of all distribution companies.
- Installation of 2.3 million prepaid meters.
- Launching a large media campaign to increase customer's awareness on the benefits of energy efficiency and conservation.
- Starting implementing a project for improving efficiency of distribution networks to decrease losses and mounting of high tech transformers and data updating.
- Activation of the customer service call center through a unified telephone number (121).
- Mounting of 11715 MVAR capacitors up to June 2016 to improve the power factor of the unified power network.

All these efforts and accomplishments led to a remarkable improvement of most performance indicators where the following have been achieved:

- Increase of the total installed capacities from 35220 MW in year 2014/2015 to 38857 Mw in year 2015/2016 at a rate of increase of 10.3%.
- Meet the peak load that reached 29200 MW in 2015/2016 against 28015 MW in year 2014/2015 without load shedding.
- The total generated energy from interconnected power plants increased from 174.9 TWh in 2014/2015 to 186.3 TWh in year 2015/2016 at a rate of increase of 6.5%.
- Average Percentage rate of power plants availability increased from 83.3% in 2014/2015 to 85.76% in 2015/2016 due to the periodic maintenance of generating units according to manufacturer's instructions and as a result of the new added capacities of the fast track plan to meet load demand of 2015 summer.
- Decrease the rate of fuel consumption from thermal power stations including private sector power plants from 214.1 gm/KWh (Gen.) in 2014/2015 to 212.4 gm/KWh (Gen.) in 2015/2016.
- Addition of the following equipment to transmission and distribution networks during the year 2015/2016:
    - 10073 MVA substations capacities.
    - 16869 Km of transmission lines and cables.
- The number of customers in the affiliated transmission and distribution companies on all voltages reached 32.4 million customers in 2015/2016 compared to 31.4 million customers in 2014/2015 at a rate of increase of 3.2%.
- The rate of natural gas to the total fuel used by power plants including private sector power plants reached 72.1% in 2015/2016.

- EEHC and its affiliated companies are paying great attention to improve human resources through local and external training and capacity building in technical, economic and commercial fields.

- Moreover, EEHC is continuously interacting with the International organizations to benefit from international advanced and diversified experience and is participating in international forums and conferences to learn about all new technological advancements in the field of production, transmission, distribution and energy conservation.

In acknowledgement of the importance of data documentation, EEHC issues this annual report for the fiscal year 2015/2016 to document is activities, achievements and future to achieve its goal in ensuring sustainability of power supply to all customers according to international standards.

Electricity for 2015/2016

Description		2014/2015	2015/2016	Variation%
Total Installed Capacity [1]:	MW	35220	**38857**	**10.3**
– Hydro	MW	2800	2800	**0**
– Thermal Affiliated Companies	MW	29685	29486	**(0.7)**
– Fast Track Plan	MW	-	3636	**0**
– New and Renewable Energy (Wind & Solar) [2]	MW	687	887	**29.1**
– Private sector BOOT's (Thermal)	MW	2048	2048	**0**
Peak load	GWh	28015	**29200**	**4.2**
Total power generated *:	GWh	174875	**186320**	**6.5**
– Hydro	GWh	13822	**13545**	**(2)**
– Thermal [3]	GWh	144995	**157056**	**8.3**
– New and Renewable Energy [4]	GWh	1444	**2225.5**	**54.1**
– Energy Purchased from (IPPs)	GWh	32	**42.4**	**32.5**
– Power generated from private sector (BOOT)	GWh	14338	**13307**	**(7.2)**
– Power generated from Isolated Plants	GWh	244	**144.1**	**(40.9)**
Net Energy Exchange with interconnected countries (sent)	GWh	679	**712.9**	**5**
Sent energy from production companies (without BOOT, Purchased from IPPs)	GWh	154054	**167714**	**8.9**
Total fuel consumption [5] :	K toe	34110	**36189**	**6.1**
▪ Production companies (including Fast Track Plan)	K toe	31142	**33436**	**7.4**
H.F.O	K toe	8528	**8842**	**3.7**
N.G	K toe	22137	**23349**	**5.5**
L.F.O	K toe	478	**1245**	**160.5**
▪ Private sector (BOOT)	K toe	2968	**2753**	**(7.2)**
Fuel consumption rate for Production company	gm/kwh gen	214.8	212.8	**(0.9)**
Fuel consumption rate including BOOT	gm/kwh gen	214.1	212. 4	**(0.8)**
Thermal efficiency (including private sector BOOT)	%	41	**41.3**	**0.73**
N.G ratio to total fuel including BOOT	%	73.6	**72.1**	**(2.04)**
N. G ratio for power plants connected to gas grid including BOOT	%	75.5	**74.1**	**(1.9)**
Total transmission Lines and Cables for HV and extra HV	Km	44409	**44904**	**1.1**
Total transmission transformers capacities for HV and extra HV	MVA	103976	**110656**	**6.4**
Total length of distribution MV&LV Lines and Cables	Km	444524	**460898**	**3.7**
Total capacity for distribution transformers MV&LV	MVA	67710	**71103**	**5**

(1) There are Isolated and reserved Plants with total capacity of 261 MW.

(2) The Solar Component of Solar kurimat station is 20 MW.

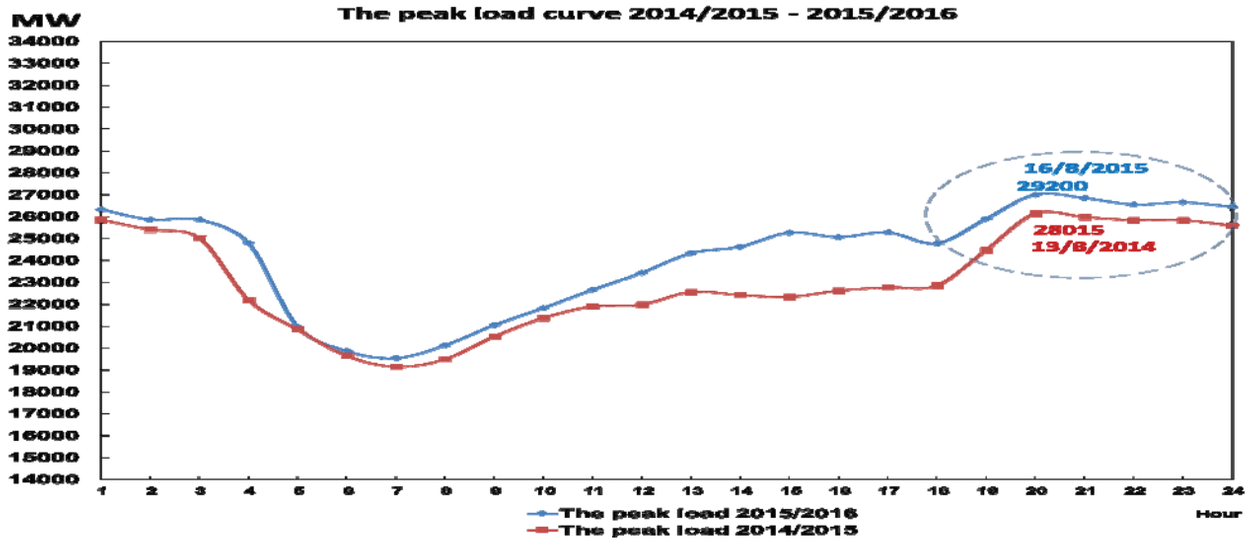
(3) Includes commissioning tests and Fast Track plan for summer 2015.

(4) Connected to The National Unified Grid (Wind & Solar energy).

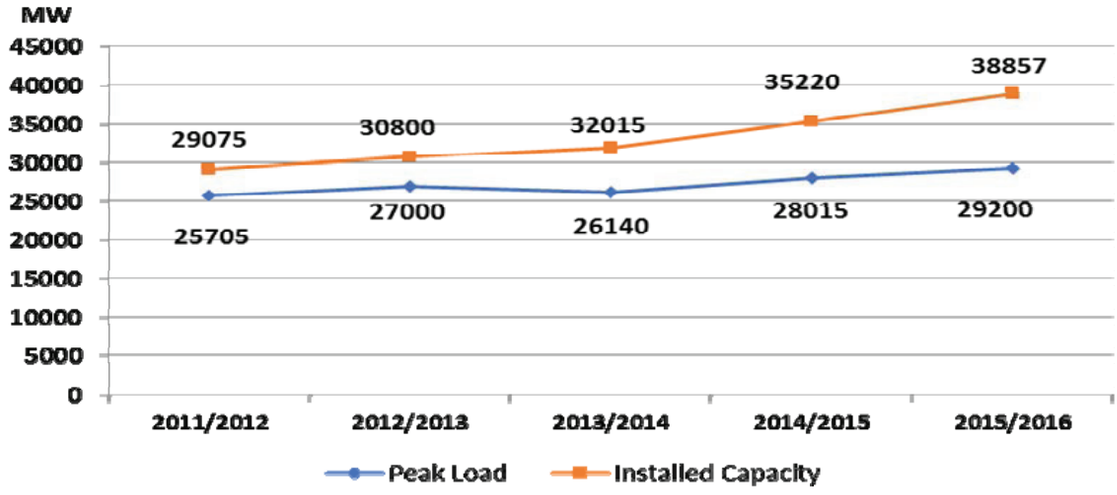
(5) not including the consumed fuel for the isolated plants which reaches 38.4 Ktoe.

Peak load and installed capacity

The Peak Load reached 29200 MW in 2015/2016 compared to 28015 in 2014/2015 at a rate of increase of about 4.2%.



On 30/6/2016, the installed capacity reached 38857 MW compared to 35220 MW on 30/6/2015 at a rate of increase of 10.3%.



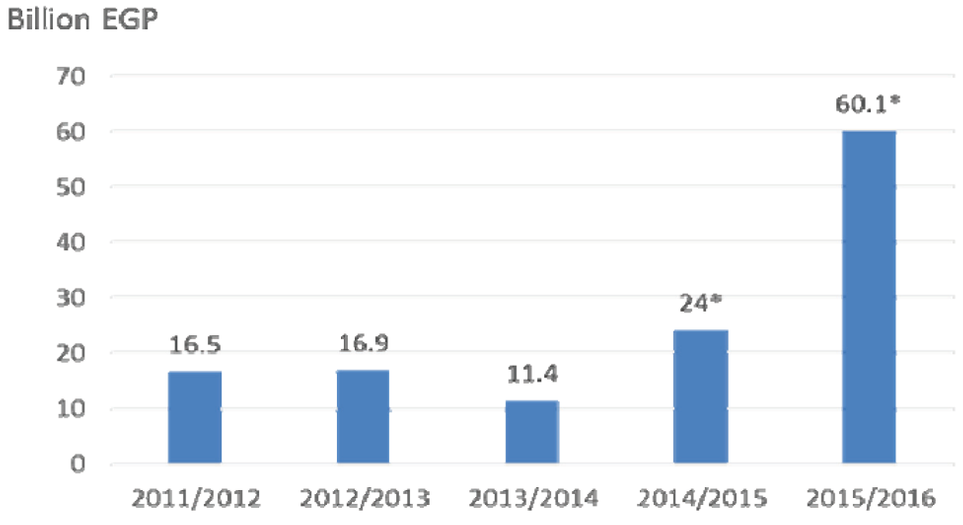
The average yearly growth rate of the peak load is 3.2% & installed capacity is 7.5% per year during the period from 2011/2012 till 2015/2016.

It is to be noted that one cannot benefit from the total installed capacity due to the aging of some generating units, quality of used fuel, impact of high temperature in summer on thermal units, dependence of hydro power plants on the amount of water defined by the Ministry of Irrigation and Water Resources in addition to the impact of non-uniformity of wind speed and solar irradiance on the renewable energy.

Financial Position of EEHC and its affiliated Companies

Description		2014/2015	2015/2016	Variation %
Net Fixed Assets	Billion EGP	127.9	148.7	16.3
Inventory	Billion EGP	13.1	14.6	11.5
Cash and Banks	Billion EGP	8.6	12.3	43
Net Working Capital	Billion EGP	(52.7)	(75.4)	(43.1)
Equity	Billion EGP	12.3	11.5	(6.5)
Total Revenues (excluding revenues from exchanged energy)	Billion EGP	79.8	92.9	16.4
Total Cost and expenditures (excluding expenditures of exchanged energy)	Billion EGP	77.8	94.4	21.3
Net Profit (Loss)	Million EGP	2020	(1449)	-
Investments	Billion EGP	24*	60.1*	150.4
The burden of Funding (installments & Interests)	Billion EGP	16	17.844	11.5
Loans balance and long term loans	Billion EGP	87.6	117.9	34.6
No. of Employees	Thousand	174.876	169.933**	(2.8)
No. of Customers in Distribution Comp	Million	31.4	32.4	3.2
No. of Customers in EETC	(No)	120	120	-

Implemented Investments for EEHC and its affiliated Companies



The average rate for Implemented investments is 38.2% yearly during the period from 2011/2012 till 2015/2016.

* Including part of the fast track plan projects for 2015 summer and Siemens projects.
** In addition to 1031 employees in Siemens projects.

EEHC's Shares in other companies' capital

The investments of EEHC amount to about 40 Million EGP as shares in other companies as shown in the following table:

Company	Authorized capital	contributed capital	Percentage of capital participation
The Egyptian Company for Manufacturing Electricity Insulators	100 Million EGP	72.5 Million EGP	5 %
Electric power System Engineering Company	5 Million EGP	5 Million EGP	20 %
Egyptian German Electric Manufacturing Company (EGEMAC)	500 Million EGP	250 Million EGP	62.5 %
Power Generation Engineering and Services Company (PGESCO)	10 Million EGP	5 Million EGP	20 %
ARABIAN Consultancy Engineering Services Company (ACESCO)	3 Million USD	3 Million USD	49 %
Egyptian Syrian Company for studies and Engineering Consultations *	20 Million SYP	20 Million SYP	50 %
African Company of Electrical and Mechanical Projects (Libya)*	5 Million LYD	5 Million LYD	10 %

*** Companies stopped for the current events.**

Electric Power Production

Electricity Production Companies:

- Cairo Electricity Production Company.
- East Delta Electricity Production Company.
- Middle Delta Electricity Production Company.
- West Delta Electricity Production Company.
- Upper Egypt Electricity Production Company.
- Hydro- Power Plants Electricity Production Company.

Objectives:

1. Production of electric energy from the affiliated power plants.
2. Management, operation, maintenance, rehabilitation and overhauling maintenance of the affiliated power plants, to be executed in full compliance with the instructions of the National Control Center, to ensure optimum technical and economic operation of the system.
3. Sale of the electric power produced from the power plants to the Egyptian Electricity Transmission Company and to the Distribution Companies (in case power delivered on medium voltages).
4. Implementing power plant projects upon the approval of EEHC's Board of Directors, and in accordance to their planned time schedules.
5. Conducting researches and studies within the scope of companies activities.
6. Carrying out any activities or works related to the company's objectives, in addition to any other work to be entrusted to them by EEHC.
7. Carrying out any work entrusted by other parties as long as it is within the company's scope of work and realizes economic benefit to the company.

Installed Capacities of Power Stations (30/6/2016) (1)

Comp	Station		No. of Units	Installed Capacity. (MW)	Actual capacity	Fuel	Commissioning Date
Cairo	Shoubra El-Kheima	(St)	4 x 315	1260	1260	N.G-H.F.O	84-85-1988
	Shoubra El-Kheima	(G)	1 x 35	35	35	N.G-LFO	1986
	Cairo West Ext	(St)	2 x 330 + 2 x 350	1360	1360	N.G-H.F.O	1994-2011
	Cairo South 1	(G)	3 x 110	330	300	N.G-LFO	1989
	Cairo South II	(CC)	1 x 110 + 1 x 55	165	150	N.G-LFO	1994
	Cairo North	(CC)	4x 250 +2 x 250	1500	1500	N.G-LFO	2004-2006-2007-2008
	Wadi Hof	(G)	3 x 33.3	100	75	N.G-LFO	1985
	El-Tebeen	(St)	2 x 350	700	700	N.G-HFO	2010
	6 October (2)	(G)	8 x 150	1200	1200	N.G-LFO	2012-2015-2016
	North Giza (3)	(CC)	6x 250 +3 x 250	2250	2250	N.G-LFO	2014-2015
East Delta	Ataka	(St)	2 x 150 + 2 x 300	900	900	N.G-H.F.O-	85-86-1987
	Abu Sultan	(St)	4 x 150	600	600	N.G-H.F.O	83-84-1986
	Shabab	(G)	3 x 33.3	100	91.5	N.G-L.F.O	1982
	New Gas Shabab	(G)	8 x 125	1000	1000	N.G-L.F.O	2011
	Port Said (4)	(G)	1 x 23.96	-	-	N.G-L.F.O	1977
	Arish	(St)	2 x 33	66	66	N.G-H.F.O	1995-1996
	Oyoun Mousa	(St)	2 x 320	640	640	N.G-H.F.O	2001
	New Gas Damietta	(G)	4 x 125	500	500	N.G-L.F.O	2011
	Damietta West	(G)	4 x 125	500	500	N.G-L.F.O	2012-2013
	Damietta	(CC)	6 x 132 + 3 x 136	1200	1164	N.G-L.F.O	89-1993
	Sharm El-Sheikh	(G)	1 x 23.7 + 4 x 24. 27 + 4 x 5.8	120.5	109	L.F.O	1975-1979-1997
	Hurghada	(G)	3 x 23.45+3 x24.27	143	131	N.G-L.F.O	1977-1979
	Ain Sokhna	(St)	2 x 650	1300	1300	N.G-H.F.O	2015
Middle Delta	Talkha	(CC)	8 x 19.5 + 2 x 40	236	236	N.G	79-80-1989
	Talkha 210	(St)	2 x 210	420	420	N.G-H.F.O	1993-1995
	Talkha 750	(CC)	2 x 250 +1 x 250	750	750	N.G	2006-2010
	Nubaria 1,2	(CC)	4 x 250 + 2 x 250	1500	1500	N.G-L.F.O	2005-2006
	Nubaria 3	(CC)	2 x 250 +1 x 250	750	750	N.G-L.F.O	2009-2010
	Mahmoudia	(CC)	8 x 21+ 2 x 50	268	268	N.G-L.F.O	1983-1995
	El-Atf	(CC)	2 x 250 + 1 x 250	750	750	N.G-L.F.O	2009- 2010
	Banha	(CC)	2 x 250+ 1 x 250	750	750	N.G-L.F.O	2013-2014
West Delta	Kafr El-Dawar	(St)	4 x 110	440	440	N.G-H.F.O	1980-1984-1986
	Damanhour Ext300	(St)	1 x 300	300	300	N.G-H.F.O-L.F.O	1991
	Damanhour St (5)	(St)	3 x 65	-	-	N.G-H.F.O	1968-1969
	Damanhour	(CC)	4 x 25 + 1 x 58	158	154	N.G-L.F.O-H.F.O	1985-1995
	Abu Kir New	(St)	2 x 650	1300	1300	N.G-H.F.O	2012-2013
	Abu Kir	(St)	4 x 150 + 1 x 311	911	900	N.G-H.F.O	1983-1984-1991
	Abu Kir	(G)	1 x 24	24	23	L.F.O	1983
	El-Seiuf (6)	(G)	4 x 33.3	133	97	N.G-L.F.O	1981-1982-1983-1984
	Karmouz	(G)	1 x 11.37 + 1 x 11.68	23	18	L.F.O	1980
	Sidi Krir	(St)	2 x 320	640	640	N.G-H.F.O-L.F.O	1999-2000
	Sidi Krir	(CC)	2 x 250 + 1 x 250	750	750	N.G-L.F.O	2009-2010
	Matrouh	(St)	2 x 30	60	60	N.G-H.F.O	1990

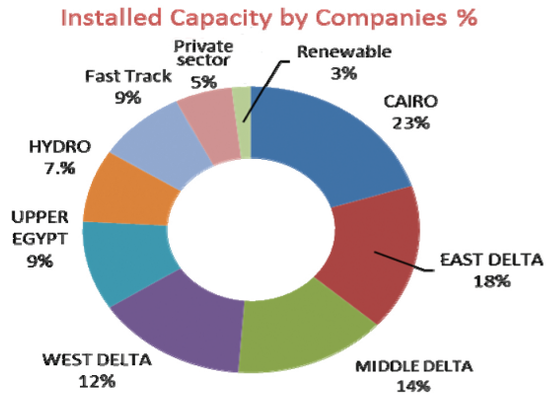
Comp	Station		No. of Units	Installed Capacity. (MW)	Actual capacity	Fuel	Commissioning Date
Upper Egypt	Walidia	(St)	2 x 300	600	600	H.F.O-L.F.O	1997
	Kuriemat	(St)	2 x 627	1254	1254	N.G-H.F.O	1997-1998
	Kuriemat 1	(CC)	2x250+1x250	750	750	N.G	2007-2009
	Kuriemat 2	(CC)	2x250+1x250	750	750	N.G	2009-2011
	Assiut [7]	(St)	2 x 30	-	-	H.F.O-L.F.O	1966-1967
Fast Track Plan	Cairo Mobile [8]	(G)	6 x 25	150	150	L.F.O	2016
	Ataka [9]	(G)	2x156+2x164	640	640	N.G-L.F.O	2016
	Port Said Ext [10]	(G)	2 x 42	84	84	L.F.O	2016
	El-Huraghda Ext [11]	(G)	6 x 48	288	288	N.G	2016
	Sharm El-Sheikh Ext [12]	(G)	6 x 48	288	288	L.F.O	2016
	West Damietta Ext [13]	(G)	4 x 125	500	500	N.G	2016
	New Mahmoudia [14]	(G)	2 x 168	336	336	N.G-L.F.O	2015
	West Assiut [15]	(G)	8 x 125	1000	1000	H.F.O-L.F.O	2016
	Upper Mobile	(G)	14 x 25	350	350	L.F.O	2015
New & Renwable	Zafarana(Wind)	(W)	105 x 0.6 + 117 x 0.66 + 478 x 0.85	547	240	Wind	**2007-2008-2009-2010**
	Gabal El-Zeit [16]	(W)		200		Wind	**2016**
	Kuriemat Solar / Thermal	(S/G)	1 x 70 + 1 x 50 + 1 x 20	140	140	Solar/ N.G	**2011**
Private Sector	Sidi Krir 3.4 (BOOT)	(St)	2 x 341.25	682.5	682.5	N.G-H.F.O	2001-2002
	Suez Gulf (BOOT)	(St)	2 x 341.25	682.5	682.5	N.G-H.F.O	2002-2003
	PortSaid East (BOOT)	(St)	2 x 341.25	682.5	682.5	N.G-H.F.O	2002-2003
Hydro Plants	High Dam		12 x 175	2100	2100	Hydro	1967
	Aswan Dam I		7 x 40	280	280	Hydro	1960
	Aswan Dam II		4 x 67.5	270	270	Hydro	1985-1986
	Esna		6 x 14.28	86	86	Hydro	1993
	Naga Hamadi		4 x16	64	64	Hydro	2008
Total				**38857**	**38155**		

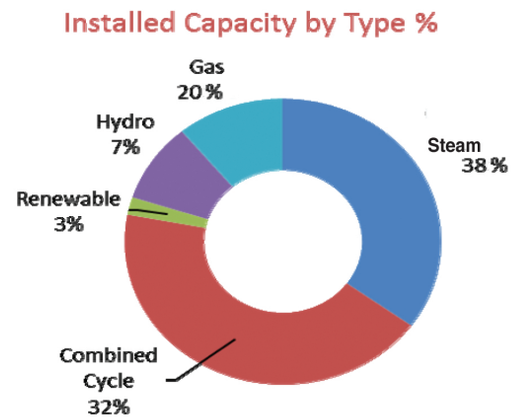
1- In addition to 261MW units isolated plants, EL Salam P.P (Diesel) affiliated to East Delta Company capacity 22.4 MW.
2- Commercial operation for Gas units in 6 October Ext, capacity 150 MW in August 2016.
3- Commercial operation for North Giza PP (3 x 250 MW) October and December 2015 respectively.
4- Demolition Gas unit in port said with capacity (24 Mw) in May 2015.
5- Demolition steam units in Damanhour, capacity (3 x 65MW) in august, November 2015.
6- Demolition two steam units in El-Seiuf, capacity (2 x 33.3MW) in October 2015.
7- Demolition two steam units in Assiut, capacity (2 x 30MW) in July, august 2015.
8- providing mobile units in Cairo “Hillobolis – East – El-Bsatin” capacity (6 x 25MW) in July 2015.
9- Commercial operation for gas units in Ataka, capacity 640MW 2x156+2x164 MW) in august, September, October 2015.
10- Installation of Gas units in Port Said Ext, capacity 84MW (2 x 42) first time on grid in august, September 2015.
11- Installation of Gas units in El-Huraghda Ext, capacity 288MW (6 x 48MW) first time on grid in July, September 2015.
12- Installation of Gas units in Sharm El-Sheikh Ext, capacity 288MW (6 x 48MW) first time on grid in august, October 2015.
13- Commercial operation for Gas units in West Damietta Ext, capacity 500 (4 x 125MW) in march 2016.
14- Commercial operation for Gas units in New Mahmoudia, capacity 336 (2 x 168MW) in September 2015.
15- Commercial operation for Gas units in West Assiut, capacity 625MW (5 x 125 MW) in July 2015.
16- Adding (200 Mw) wind power in Gabal El-Zeit in January 2016.

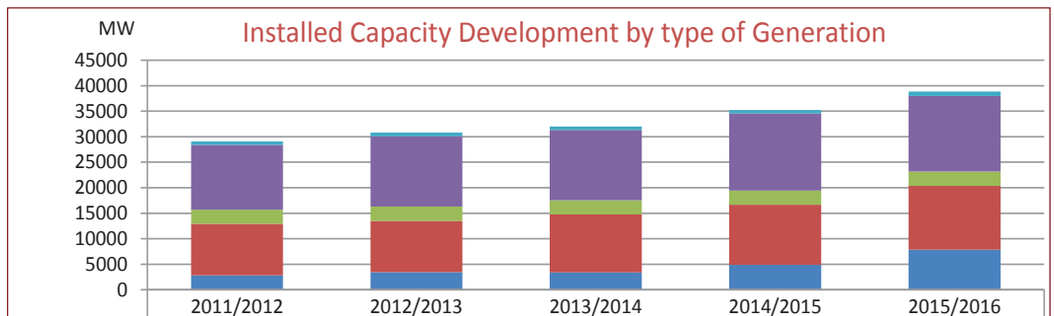
Total Installed Capacities*
(30/6/2016)

The total installed capacity for the year 2015/2016 reached 38857 MW compared to 35220 MW in 2014/2015 at a rate of increase of about 10.3% and distributed as follows:

Company / list	Cairo	East Delta	Middle Delta	West Delta	Upper Egypt	Hydro	Fast Track Plan	Private Sector	Renewables	Total
Gas	1665	2364	0	180	0	0	3636	0	0	7845
Steam	3320	3506	420	3650	1854	0	0	2048	0	14798
Combined Cycle	3915	1200	5004	908	1500	0	0	0	0	12527
Hydro	0	0	0	0	0	2800	0	0	0	2800
Renewables	0	0	0	0	0	0	0	0	887	887
Total	**8900**	**7070**	**5424**	**4738**	**3354**	**2800**	3636	**2048**	**887**	**38857**







	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
Renewables	687	687	687	687	887
Steam	12685	13808	13783	15082	14798
Hydro	2800	2800	2800	2800	2800
C Cycle	10077	10080	11330	11777	12527
Gas	2826	3425	3415	4874	7845
Total	29075	30800	32015	35220	38857

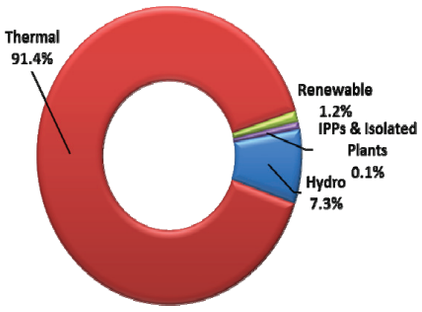
The average growth rate of the installed capacity is 7.52% per year during the period from 2011/2012 till 2015/2016.

- Renewables include wind farms capacity 747 MW, Solar / Thermal Kuriemat p.p capacity 140 MW & the solar component of it reaches 20 MW.
- In addition, there are Isolated Plants with total capacity of 261 MW.

Generated and Purchased Energy*

By Type and Technology(GWh)*:

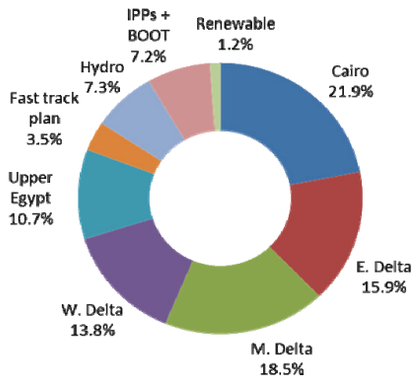
Type		2014/2015	2015/2016	Variation%
Steam	Affiliated Companies	63924	67802	6.1
	BOOT	14338	13307	(7.2)
Gas	Affiliated companies	15178	12456	(17.9)
	Fast Track plan	268	6544	-
Combined. Cycle		65625	70254	7.1
Total Thermal*		159333	170363	6.9
Hydro		13822	13545	(2)
New & Renewable	Wind	1444	2058	42.5
	Solar/Thermal	0	167.5	-
Total Grid		174599	186133.5	6.6
Isolated Power Plants		244	144.1	(40.9)
Purchased from (IPP's)		32	42.4	32.5
Grand Total		174875	186320	6.5



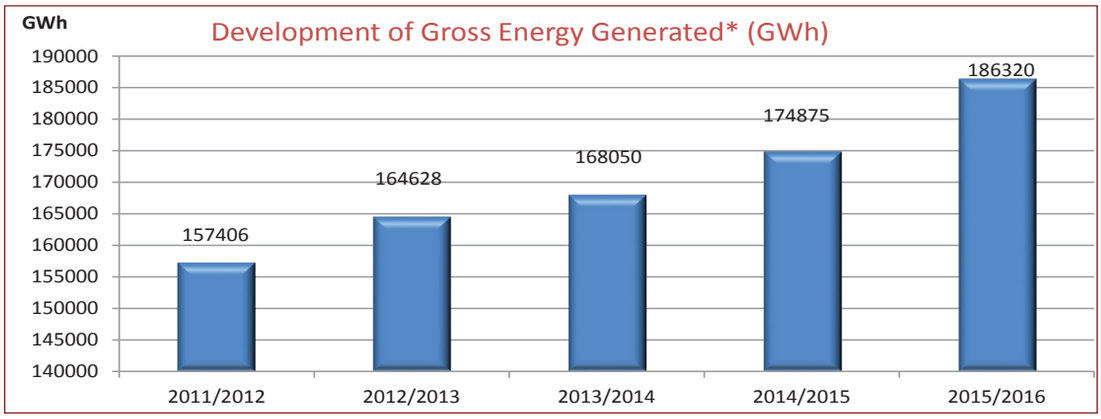
* Includes commissioning tests

By Production Company (GWh)*:

Company	2014/2015	2015/2016	Variation %
Cairo	30634	40723	32.9
East Delta	31771	29608	(6.8)
Middle Delta	35664	34497	(3.3)
West Delta	27657	25662	(7.2)
Upper Egypt	19001	20022	5.4
Hydro plants	13822	13545	(2)
Fast Track plan	268	6544	-
Total Production Companies	158817	170601	7.4
Renewables	1444	2225	54.1
BOOT, Isolated Plants and Purchased from IPPs	14614	13494	(7.7)
Total	174875	186320	6.5



* Includes commissioning tests.



The average growth rate of the generated energy is 4.3% per year during the period from 2011/2012 till 2015/2016.

Development of Gross Energy Generation (GWh)

Comp.	Station		11/12	12/13	13/14	14/15	15/16
Cairo	Shoubra El-Kheima	(St)	5473	6041	5841	6973.2	7305.8
	Cairo West	(St)	682	431	-	-	-
	Cairo West Ext.	(St)	7181	7428	7957	7494.09	6792.5
	Cairo South 1	(CC)	2681	1668	1658	1471.82	2140.9
	Cairo South II	(CC)	719	795	538	221.59	1086.5
	Cairo North	(CC)	10432	9047	7569	6861.21	7765.6
	Wadi Hof	(G)	127	155	126	180.71	105.3
	Tebbin	(St)	4276	3014	2947	2734.35	5195.2
	6 October	(G)	628	2630	1534	2969	2617.1
	Giza North	(CC)	-	-	133	1727.59	7714
East Delta	Ataka	(St)	4260	3028	1852	1093.07	1148.1
	Abu Sultan	(St)	3674	3678	3090	3366.73	3196.7
	Shabab	(G)	106	224	251	345.81	314.3
	New Gas Shabab	(G)	6013	4913	1932	4306.25	3272.6
	Port Said	(G)	62	100	111	84.37	-
	Arish	(St)	367	506	545	523.6	547.7
	Oyoun Mousa	(St)	5188	4578	4943	3886.9	4109.5
	New Damietta	(G)	2989	2940	3159	3148.9	1916
	West Damietta	(G)	-	2602	3042	3275	1755.4
	Damietta	(CC)	7522	8281	8238	7334	6591.9
	Sharm El-Sheikh	(G)	43	58	48	59.42	15.8
	El-Huraghda	(G)	44	104	129	386.12	223.5
	Ein-Sokhna	(St)	-	-	-	3961.73	6516.2
Middle Delta	Talkha	(CC)	1698	1761	2034	1748.22	1610.8
	Talkha steam 210	(St)	2197	1862	2339	2003.56	2133.8
	Talkha 750	(CC)	3462	5163	5012	5688.23	5184.6
	Nubaria	(CC)	11169	10555	15127	14694.72	13285.3
	Mahmoudia	(CC)	2052	2234	2190	2275.79	1950.4
	El-Atf	(CC)	5652	5648	5938	4739.53	5223.9
	Banha	(CC)	-	-	485	4514.16	5108.4
West Delta	Kafr El-Dawar	(St)	2116	2928	3061	2754.62	2567.8
	Damanhour Ext. 300	(St)	539	40	686	1764.49	1078.1
	Damanhour	(St)	1050	1007	995	751.04	154
	Damanhour	(CC)	1049	1045	1089	1082.13	927.2
	New Abu Kir	(St)	-	5106	7423	7064.44	8168.6
	Abu Kir	(St)	5179	5185	4852	5480.84	4131.1
	El-Seiuf	(G)	214	275	302	409.33	93
	Karmouz	(G)	6	10	7	7.85	0.92
	Sidi Krir	(St)	4004	4101	3713	3386.05	3365.9
	Sidi Krir	(CC)	5461	4782	5296	4612.2	4759.9
	Matroh	(St)	366	378	349	343.81	414.9

(St): steam unit
(CC): combined cycle unit
(G): gas unit

Development of Gross Energy Generation (GWh)

Comp.	Station		11/12	12/13	13/14	14/15	15/16
Upper Egypt	Walidia	(St)	3166	3540	3510	2226.45	4011.3
	Kuriemat	(St)	7602	8784	8542	7921.2	6954.3
	Kuriemat 1	(CC)	5072	3991	4726	5081.47	5273.5
	Kuriemat 2	(CC)	4435	4396	5112	3572.8	3771.2
	Assiut	(St)	406	461	364	198.27	11.84
Fast Track Plan	Cairo Mobile	(G)	-	-	-	-	156.23
	Ataka	(G)	-	-	-	146.6	1953.75
	Port Said Ext	(G)	-	-	-	-	17.79
	El-Huraghda Ext	(G)	-	-	-	-	455.11
	Sharm El-Sheikh Ext	(G)	-	-	-	-	111.92
	West Damietta Ext	(G)	-	-	-	-	1142.36
	New Mahmoudia	(G)	-	-	-	-	474.95
	West Assiut	(G)	-	-	-	100.88	1928.23
	Upper Mobile	(G)	-	-	-	20.8	304.1
Total	Total-Thermal*		129361	135474	138795	144995	157056
	Total-Hydro		12934	13121	13352	13822	13544.8
	Total-Wind		1525	1260	1332	1444	2058
	Kuriemat Solar / Thermal		479	237	114	-	167.56
Private Sector ((BOOT	Sidi Krir 3&4	(St)	4614	4705	4387	4318.5	4556
	Suez Gulf	(St)	3994	4576	4678	4311	4460.7
	Port Said East	(St)	4247	4983	5089	5708.5	4290.1
	Total BOOT	(St)	12855	14264	**14154**	**14338**	**13307**
Purchased from IPPs		(St)	29	33	**62**	**32**	**42.4**
Total			**157183**	**164388**	**167809**	**174631**	**186176**
Isolated plant units			223	240	**241**	**244**	**144.1**
Grand Total*			157406	164628	168050	174875	186320

* includes commissioning tests.

Performance Statistics of Power Plants (2015/2016)

Comp.	Station	Gross Gen. GWh	Net Gen. GWh	Net/ Gross %	Fuel Consump. gm/ kWh gen.	Peak Load MW	Load Factor %	Cap. Factor %	Thermal Eff. %	Av. Factor %
Cairo	Shoubra El-Kheima	7305.8	6942.3	95	241.17	1182	70.36	64.23	36.39	85.63
	Cairo West Ext.	6792.5	6426.87	94.6	225.63	1289.4	59.97	56.86	38.89	83.64
	Cairo South 1	2140.96	2124.4	99.2	286.47	316	77.13	73.86	30.63	93.06
	Cairo South II	1086.48	1065.1	98	197.65	155	79.8	74.96	44.4	91.6
	Cairo North	7765.5	7570.93	97.5	176.23	1465	66.72	58.94	49.8	88.69
	Wadi Hof	105.27	104.36	99.1	412.48	73	16.42	11.99	21.27	96.15
	Tebbin	5195.17	4880.59	93.9	203.65	705	83.89	84.49	43.1	88.41
	6 October	2617.11	2573	98.3	286.4	1156	25.77	25.09	30.64	96.13
	Giza North	7714.03	7556.77	98	205.31	1831	47.96	43.48	42.74	91.08
East Delta	Ataka	1148.13	1038.73	90.5	288.7	220	59.4	14.5	30.4	24.97
	Abu Sultan	3196.73	2954.98	92.4	260.2	560	65	60.7	33.7	78.1
	Shabab	314.26	312.22	99.4	372.6	75	47.7	35.6	23.6	91.23
	New Gas Shabab	3272.63	3245.13	99.2	272.5	963	38.7	37.3	32.2	92.84
	Arish	547.66	514.71	94	250.4	66	94.5	94.5	35	98.15
	Oyoun Mousa	4109.52	3942.08	95.9	216.6	636	73.6	73.1	40.5	90.08
	New Gas Damietta	1916.03	1892.91	98.8	269.4	519	42	43.6	32.6	98.13
	West Damietta	1755.4	1742.97	99.3	264.7	493	40.5	40	33.2	91.87
	Damietta	6591.86	6441.16	97.7	196	1052	71.3	62.5	44.8	83.25
	Sharm El-Shikh	15.82	14.68	92.8	404	79	2.3	1.3	21.7	81.72
	El-Huraghda	223.508	222.57	99.6	400.1	77	33	71.8	21.9	97.46
	Ein-Sokhna	6516.19	6336	97.2	213.3	1149	64.6	57.1	41.1	87.54
Middle Delta	Talkha	1610.77	1586	98.6	278.6	256	71.63	77.7	31.5	83.17
	Talkha (210)	2133.8	1969	92.4	261.4	365	66.55	57.84	33.57	81.57
	Talkha (750)	5184.65	5085.4	98.1	155.95	761	77.56	78.7	56.27	90.88
	Nubaria (1,2)	8929.97	8781.26	98.3	169.25	1459	69.68	67.77	51.85	95.36
	Nubaria 3	4355.36	4281.25	98.3	162.85	796	62.29	66.11	53.89	86.68
	Mahmoudia	1950.36	1929.39	98.9	240.18	293	75.78	82.85	36.54	93.52
	El-Atf	5223.9	5124.99	98.1	161.95	816	72.88	79.29	54.19	94.54
	Banha	5108.4	5028.583	98.4	158.78	806	72.15	77.54	55.27	93.17
West Delta	Kafr El-Dawar	2567.8	2373.36	92.4	281.8	440	66.44	66.44	31.1	86.1
	Damanhour Ext 300.	1078.1	1044.69	96.9	238.7	300	40.9	40.9	36.76	57.67
	Damanhour steam	154.02	137.29	89.1	338.97	98	17.89	8.99	25.89	77.4
	Damanhour	927.23	914.28	98.6	218.7	143	74.13	67.5	40.12	90.1
	New Abu Kir	8168.57	7858.05	96.2	215.74	1250	74.39	71.53	40.67	89.19
	Abu Kir	4131.08	3870.4	93.7	262.65	805	62.6	50.28	33.4	73.16
	El-Seiuf	92.99	91.34	98.2	393.87	97	10.9	7.94	22.28	86.2
	Karmouz	0.92	0.902	98	397.8	18	0.583	0.455	22.06	90.59
	Sidi Krir 1,2	3365.86	3215.05	95.5	212.67	640	59.87	59.87	41.26	81.49
	Sidi Krir (C.C)	4759.94	4622.5	97.1	166.72	750	72.25	72.25	52.64	95.78
	Matrouh	414.93	387.17	93.3	274.66	57	82.87	78.73	31.95	94.22

Performance Statistics of Power Plants (2015/2016)

Comp.	Station	Gross Gen. GWh	Net Gen. GWh	Net/ Gross %	Fuel Consump. gm/ kWh gen.	Peak Load MW	Load Factor %	Cap. Factor %	Thermal Eff. %	Av. Factor %
Upper Egypt	Walidia	4011.3	3796.7	94.7	238.39	583	78.3	76.11	36.8	87.2
	Kuriemat steam	6954.34	6745.4	97	215.72	1217	65.1	63.1	40.68	85.7
	Kuriemat 1	5273.5	5178.97	98.2	157.28	739	81.24	80	55.8	95.79
	Kuriemat 2	3771.2	3685.9	97.7	161.03	755	56.86	57.2	54.5	75.88
	Assiut	11.8	9.34	97.9	338.73	20	26.67	17.78	25.9	27.68
Fast Track Plan	Cairo Mobile	156.23	156.12	99.9	266.03	125	10.09	8.41	33	98.96
	Ataka	1953.75	1942	99.4	251.8	649	34.3	34.8	34.9	78.99
	Port Said Ext	17.79	17.42	97.9	241.4	69.6	3.3	2.4	36.4	35.93
	El-Huraghda Ext	455.11	453.89	99.7	243.2	264	20.6	18.9	36.1	46.81
	Sharm El-Sheikh Ext	111.92	108.7	97.1	250.2	207	6.6	4.8	35.1	43.7
	West Damietta Ext	1142.36	1132.58	99.1	265.7	507	25.7	26	33	82.95
	New Mahmoudia	474.95	471.93	99.4	302.06	319	18.37	17.44	29.09	75.88
	West Assiut	1928.23	1904.7	98.8	281.98	-	-	-	31.2	-
	Upper Mobile	304.1	298.8	98.3	272.07	-	-	-	32.25	-
Hydro Plants	High Dam	9483.63	9403.1	99.2	-	2220	48.6	51.4	85.87	91.04
	Aswan Dam I	1577.69	1547.69	98.1	-	273	65.79	64.15	86.59	96.55
	Aswan Dam II	1522.8	1513.4	99.4	-	270	64.2	64.21	89.98	81.88
	Esna	508.09	499.4	98.3	-	84.9	68.13	67.5	80.29	96.1
	Naga Hamadi	452.56	446.16	98.6	-	74.7	68.97	80.5	82.98	97.3
Total	Total-Hydro	13544.79	13409.7	99	-	2767	55.73	55.08	-	90.87
	Total-Thermal **	157056.4	152106	85.5	212.9	-	-	-	41.2	-
	Total-Wind	2058	2031	98.7	-	420	55	31	-	-
	Kuriemat Solar / Thermal	167.56	167.56	100	-	-	-	-	-	-
	Private Sector BOOT	13306.87	12496.09	93.9	206.85	221.8	-	-	42.4	
	Total	186133	180210	96.8	-	-	-	-	-	-
	Purchased from IPPs	42.4	42.4	100	-	-	-	-	-	-
	Isolated Plants	144.1	139.39	96.7	-	-	-	-	-	-
	Grand Total *	**186320**	**180392**	**96.8**	**-**	**29200**	**-**	**-**	**-**	**-**

*** includes commissioning tests.**

*Av. Factor % = (operating hours + reserve hours) / period hours ×100.

* Capacity Factor٪ = average load / installed capacity × 100.

*Load Factor % = average load / maximum load during the period × 100.

*Av. Fuel Consump gm/ kWh gen. = consumption fuel quantity (toe) × 1000 / energy generation (MWh).

* Thermal Eff. % = 860 × 1000 / (9800 × Av. Fuel Consump) × 100.

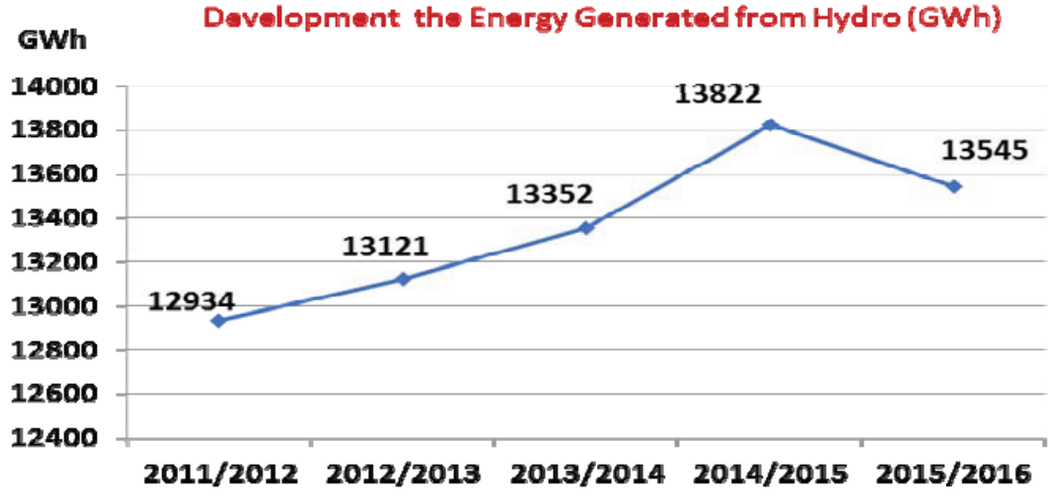
Hydro Power

Energy Generated from Hydro Power Plants (GWh):

Plant	14/15	15/16	Variation %
High Dam	9805	9484	**(3.3)**
Aswan Dam 1	1543	1578	**2.3**
Aswan Dam 2	1567	1523	**(2.8)**
Esna	459	507	**10.5**
Naga Hamady	448	453	**1.1**
Total	13822	13545	(2)

Indicators of Hydro generation

Description		High Dam	Aswan1	Aswan2	Esna	Naga Hammady
Peak Load	(MW)	2220	273	270	84.9	**74.7**
Max. daily generated energy	(GWh)	42.47	6.4	6.43	1.96	**1.62**
Min. daily generated energy	(GWh)	10.4	1.58	1.58	0.26	**0.69**
Efficiency	(%)	**85.87**	**86.59**	**89.98**	**80.29**	**82.98**



The average growth rate of Energy Generated from Hydro Power Plants is 1.2% per year during the period from 2011/2012 till 2015/2016.

The Hydro Power Plants Execution Authority and the Egyptian Electricity Holding Company are coordinating for the execution of New Assiut Barrage Hydro Power Plant with total installed capacity of 32 MW which is expected to be commissioned by September 2017.

Fuel

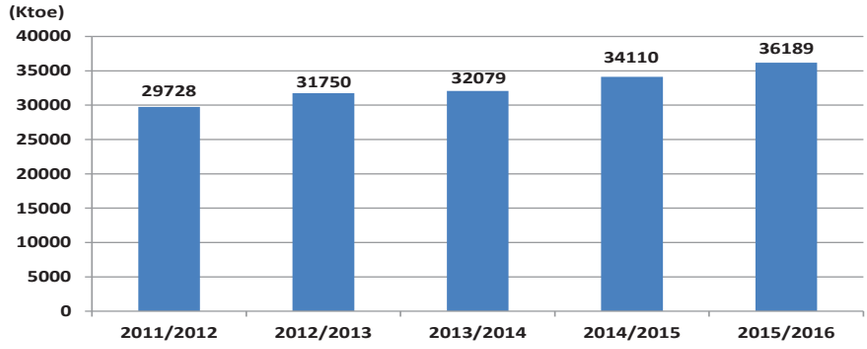
- The operation policy of the existing thermal power plants depends on the maximum utilization of natural gas in thermal power generation due to its economic and environmental benefits.
- Usage of N.G by power plants (Including BOOT P.P) connected to the gas grid reached 74.1% in 2015/2016 representing 72.1% of total fuel consumption in power generation.

*Fuel Consumption by Type **

Item		2014/2015	2015/2016	Variance %
H.F.O	Ktons	8627	8958	**3.8**
N.G	Million m^3	29332	30387	**3.6**
L.F.O	Ktons	355.6	1074.2	**202.1**
Special L.F.O	Ktons	128.4	121.5	**(5.4)**
Total	**Ktoe**	**34110**	**36189**	**6.1**

* Fuel Consumption Including fuel for commissioning tests & BOOT power plants.
* Not including consumed fuel in isolated plants amounting to 38.4 Ktoe.
* The consumed fuel in BOOT power plants was 3204.2 Million m^3 of N.G., with a total of 2753 Ktoe.
* Ktoe: 1000 ton oil equivalent.

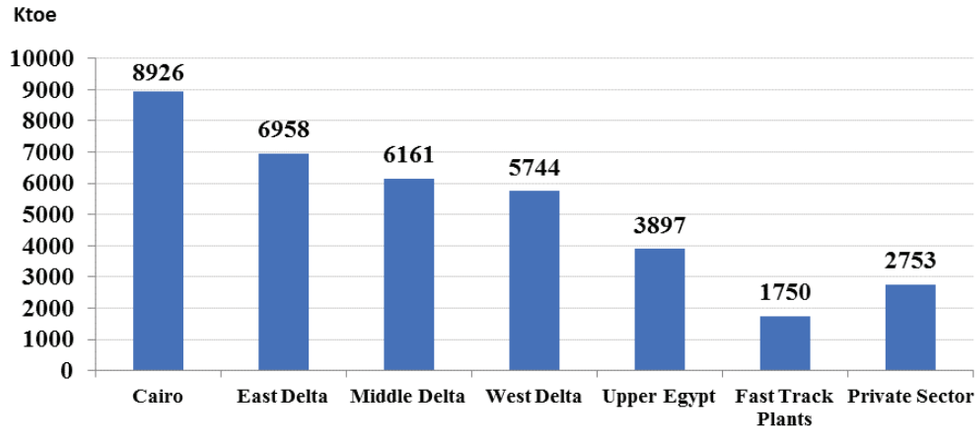
- **Fuel Consumption Development *:**



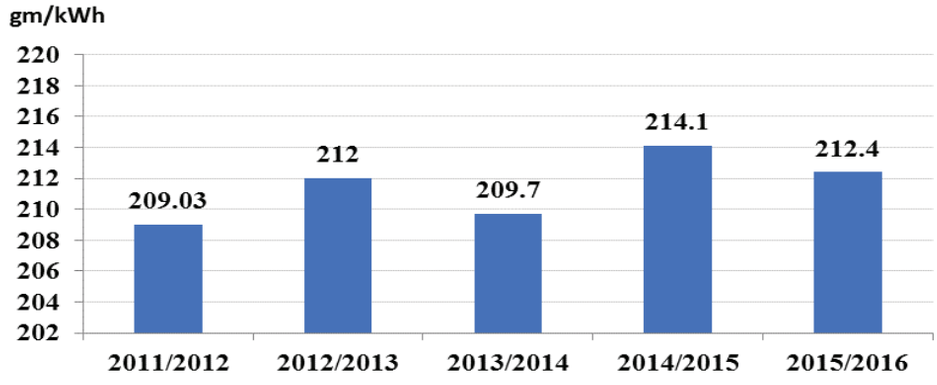
*Includes BOOTs power plants, excludes isolated power plants and reserve units.

The average growth rate of Fuel Consumption is about 5% per year during the period from 2011/2012 till 2015/2016.

- **Fuel Consumption by Companies 2015/2016:**



- **Fuel Consumption Development Rate (gen):**



The average growth rate of fuel consumption (generated) is 0.4% per year during the period from 2011/2012 till 2015/2016.

Development of Fuel Consumption by Power Plants (ktoe)*

Comp.	Station		11/12	12/13	13/14	14/15	15/16
Cairo	Shoubra El-Kheima	(St)	1331	1445	1406	1689	1761.9
	Cairo West	(St)	228	157	-	-	-
	Cairo West Ext.	(St)	1541	1624	1776	1697	1532.59
	Cairo South I	(G)	619	409	402	364	613.3
	Cairo South II	(CC)	188	166	108	59	214.74
	Cairo North	(CC)	1677	1482	1257	1231	1368.5
	Wadi Hof	(G)	49	61	49	72	43.42
	Tebbin	(St)	848	614	603	576	1058
	6 October	(G)	148	699	423	804	749.66
	Giza North	(CC)	-	-	37	510	1583.79
East Delta	Ataka	(St)	1089	819	478	282	331.5
	Abu Sultan	(St)	955	954	806	879	831.9
	Shabab	(G)	39	76	85	117	117.1
	New Gas Shabab	(G)	1655	1373	540	1185	891.7
	Port Said	(G)	23	37	41	32	-
	Arish	(St)	94	124	134	130	137.1
	Oyoun Mousa	(St)	1112	991	1072	849	890.2
	New Gas Damietta	(G)	766	773	860	857	516.2
	Damietta West*	(G)	-	688	813	872	464.7
	Damietta	(CC)	1453	1575	1594	1449	1292.1
	Sharm El-Sheikh	(G)	17	23	19	22	6.4
	El-Huraghda	(G)	19	44	52	155	89.4
	Ein-Sokhna	(St)	-	-	-	851	1389.6
Middle Delta	Talkha	(CC)	402	413	476	478	448.78
	Talkha steam 210	(St)	535	468	581	522	557.8
	Talkha 750	(CC)	575	790	842	870	808.57
	Nubaria 1,2	(CC)	1831	1723	2522	2393	2220.6
	Mahmoudia	(CC)	483	490	484	506	468.44
	El-Atf	(CC)	909	921	955	797	845.99
	Bnha	(CC)	-	-	130	769	811.10

Comp.	Station		11/12	12/13	13/14	14/15	15/16
West Delta	Kafr El-Dawar	(St)	585	831	860	792	723.6
	Damanhour Ext. 300	(St)	136	16	169	425	257.34
	Damanhour	(St)	308	303	299	238	52.2
	Damanhour	(CC)	226	220	230	235	202.9
	New Abu Kir	(St)	-	1095	1586	1534	1762.36
	Abu Kir	(St)	1279	1296	1245	1416	1084.5
	El-Seiuf	(G)	83	106	115	159	36.6
	Karmouz	(G)	3	4	3	3	0.37
	Sidi Krir	(St)	848	869	827	728	715.8
	Sidi Krir	(CC)	868	764	845	758	793.58
	Matroh	(St)	106	102	98	99	113.97
Upper Egypt	Walidia	(St)	743	845	850	569	956.2
	Kuriemat	(St)	1625	1888	1830	1678	1500.2
	Kuriemat 1	(CC)	791	641	726	776	829.39
	Kuriemat 2	(CC)	771	751	811	578	607.26
	Assiut	(St)	124	142	113	63	4.1
Fast Track Plan	Cairo Mobile	(G)	-	-	-	-	41.5
	Ataka	(G)	-	-	-	-	491.9
	Port Said Ext	(G)	-	-	-	-	4.3
	El-Huraghda Ext	(G)	-	-	-	-	110.7
	Sharm El-Sheikh Ext	(G)	-	-	-	-	28
	West Damietta Ext	(G)	-	-	-	-	303.5
	New Mahmoudia	(G)	-	-	-	-	143.46
	West Assiut	(G)	-	-	-	30	543.7
	Upper Egypt Mobile	(G)	-	-	-	6	82.7
Total			**27083**	**28811**	29158	31143	33435.1
Private Sector (BOOT)	Sidi krir 3, 4	(St)	915	938	908	870	914.19
	Suez Gulf	(St)	847	972	1001	920	941.9
	Port Said East	(St)	883	1029	1012	1178	896.46
	Total BOOT		**2645**	**2939**	2921	2968	2752.56
	Grand Total *		**29728**	**31750**	**32079**	**34110**	**36188.6**

***Include commissioning tests, excluding isolated plants.**

Isolated Power Plants and Reserve Units

2015/2016

Isolated power plants which are not connected to the unified power system are mainly providing electricity to remote areas and touristic projects, with a total installed capacity of 261 MW in addition to one 5MW Wind farm in Hurghada.

Installed Capacity and Energy Generated

Company	type	Installed Capacity (MW)		Energy Generated (GWh)		Energy sent (GWh)	
		2015/2016	2014/2015	2015/2016	2014/2015	2015/2016	2014/2015
Canal D.C.*	Diesel	157.5	150.8	**71.37**	**180.62**	70.27	**156.88**
	Solar	14					
El-Behera D.C.**	Diesel	30.2	28.8	**41.3**	**36.34**	39.2	**34.53**
	Solar	10					
Middle Egypt D.C.***	Diesel	40.6	40.6	**31.43**	**27.31**	29.92	**26.05**
	Solar	6					
Upper Egypt D.C.	Diesel	2.7	2.70	-	**0.01**	0	**0.01**
Total	Diesel	231	222.9	144.1	244.28	139.39	217.47
	Solar	30					
	Diesel & Solar	261	222.9	144.1	244.28	139.39	217.47

*** Includes Solar Energy from the plants which is operated for others with capacity 14 MW on 20/4/2016, and not including 21.8 GWh the generated energy.**
****The 10 MW solar energy station in Siwa offered by the United Arab Emirates has been delivered to EL-Behera Distribution Company on 29/4/2015 and 10 MW for the two units caterpillar (2× 5 MW were operated on 29/6/2016.**
*****6 MW solar energy station (5MW in El-Frafra, 0.5 MW in Al-Arbeen village, 0.5 MW in Abo Monkar village) which were operated on 8/12/2015.**
- Total consumed fuel is 38.4 Ktoe.

Strategic Planning of Thermal Power Plants Projects

To meet the fast growing rates of energy demand and peak load, the Egyptian Electricity Holding Company is developing flexible five-year plans based on the expected annual growth rate of energy demand and peak load evolution , this is to be achieved through the construction of new power plants to provide electrical energy to the different sectors of customers with an adequate reserve to cope with the programmed maintenance, forced outages and ageing of the existing generating units meanwhile diversifying generation type (combined-thermal) and type of fuel used to achieve balanced generation mix.

Seventh Five Year Plan (2012-2017):

- To achieve this goal, the power sector adopted on 20/3/2013, the seventh five year plan (2012-2017) for the construction of thermal power plants projects aiming to add generation capacities of 13200 MW, however during projects implementation, the power sector faced many challenges such as the increase of the peak load at a high rate of 7% in 2014/2015 compared to 2013/2014 as well as the delay in implementing and interconnecting some power plants such as Dairout and Helwan South combined cycle power plants in addition to the lack of natural gas supply which necessitated introducing of some modifications to the plan in order to overcome these challenges, as follows:

A- Fast Track Plan for Summer 2015:

- To meet the load requirements of Summer 2015, a fast track plan has been adopted to add 52 gas units with a total capacity of 3636 MW and total investment cost of US$ 2.7 billion, where 20 units of them have been installed and interconnected to the 11 KV substations to reduce network losses. The fast track plan projects have been implemented and interconnected to the network in a recorded time preventing load shedding during Summer 2015 and is continuing to prevent it.

B- Projects Implemented by Siemens:

- Following Sharm El-Sheikh Economic Conference in March 2015, a contract has been signed with Siemens Company and its local partners for the execution of (3) combined cycle power projects at 3 sites (Burullus, Beni Suef and the New Administrative Capital) with a total installed capacity of 14400 MW and investment cost of US$ 6.7 billion financed through EPC+Finance scheme including site preparation and excluding lighting and water cost.
- Partial operation of the power plants at Burullus, Beni Suef, and the New Capital was accomplished in November and December 2016 with a total installed capacity of 3200 MW, while the remaining units will be consequently operational during 2017 for a complete implementation of the three projects as combined cycle projects with the total capacity of 14400 MW and to be interconnected to the Unified Power Network by May 2018.

- Contracts have been concluded for converting some gas units to operate as combined cycle units without additional use of fuel to decrease the rate of fuel consumption and improve power plants efficiency such as:

  - Addition of a 340 MW steam unit to convert gas units at 6th of October power plant to operate as a combined cycle power plant.
  - Addition of 750 MW steam units to convert gas units at Assiut West and Damietta West extension to operate as combined cycle power plants.
  - Addition of 750 MW steam units to convert gas units at El-Shabab and Damietta West to operate as combined cycle power plants.

- The following actions have also been taken:

  - Postpone the steam units scheduled to be added at Mahmoudia gas power plant and extension of Ataqa gas power plant (executed in the fast track 2015 plan) for converting them to combined cycle plants to the ninth five-year plan (2022-2027).
  - Postpone execution of Damanhour combined cycle power plant to the ninth five-year plan (2022-2027) and increase its capacity from 1500 MW to 1800 MW.
  - Cancel the implementation of El-Siuf 750 MW Combined cycle power plant.
  - Postpone implementation of Dirout 2250 MW combined cycle BOO power plant due to some problems to be implemented in the ninth five-year plan (2022-2027).

- Based on these actions, the total added capacities through the modified seventh five-year plan (2012-2017), the fast track plan and the Siemens projects reached 27400 MW with a capital investment cost of US$ 17.8 Billion implemented by the electricity sector through soft loans from Arab and International financing institutions in addition to (EPC+ Finance) scheme.

- 7236 MW out of the five-year plan power projects were added by the end of (2015-2016), where it is planned to add the last unit of the amended seventh Five-year plan (2012-2017) by year (2019-2020).

Information about Production Companies

Company	Geographical zone	Headquarter	No. of Shares	Equity Capital (Million EGP)	Address	Tel.
Cairo	Great Cairo	Cairo	**6718350**	**671.835**	22 Shanan St. Sabteia	02-25793054 02-25740550
East Delta	Damietta, Ismailia, Port Said, Suez, South Sinai, North Sinai & Red Sea Governorates	Ismailia	**6669800**	**666.980**	Sheben Elkom St.	064-3204590 064-3201492
Middle Delta	Qalyobeya Governorate (Except for Great Cairo Extension), Mhmodeya City, Kom Hamada from Behera Governorate, Dakahlya Governorate.	Dakahlya	**7913750**	**791.375**	Compost road Talkha,	050-2524149 050-2524369
West Delta	Alexandria, Matrouh & El Behera Governorates (Except for Mahmodeya city & kom Hamada)	Alexandria	**7429450**	**742.945**	7 Riad St, Gleem	03-5761375 03-5756722
Upper Egypt	Giza (Except for extension of Great Cairo), Fayoum, Beni-Suef, El-Minia, Assiut, New Valley, Sohag, Qena, Aswan, & Luxor Governorates	Giza	**9258750**	**925.875**	Mohamed Dora St,	082-9210733 088-2321915 02-37610578 02-33357086
Hydro Power Plants	Affiliated Hydro Plants All over the Country (Aswan – Luxor – Qena - Assuit)	Aswan	**3916600**	**391.660**	High Dam – West Aswan	097-3480412 097-3481974

Electric Power Transmission

Egyptian Electricity Transmission Company (EETC) Objectives:

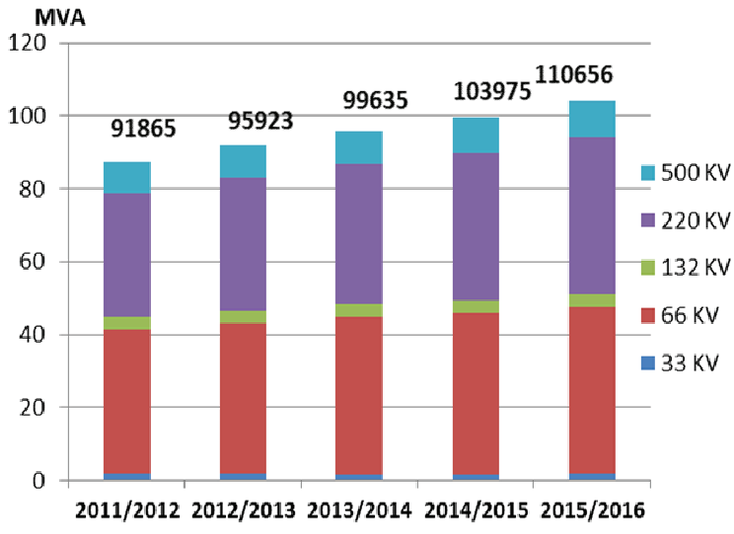
1. • Management, operation and maintenance of electric power transmission grids on extra and high voiltages all over the country, with the optimal eoonomic usage of those grids.
2. • Organizing of the energy transmission on extra and high voltage grids all over the country through the National dispatch Center and the Regional Control Centers.
3. • Purchasing the electricl power produced from the power plants according to the needs and selling it to the Consumers on the extra and high voltages and to the Electricity Distribution Companies.
4. • Implementation of the electric energy of transmission distribution projects.
5. • co-operatlon with Egyptian Electricity Holding Company in preparing technical and economic studies to meet the demand on electricity and its stability.
6. • Implementalion of electric power transmission projects on extra and high voltages approved by EEHC management and according to the time schedules.
7. • Implementalion of the interconnection projects approved by EEHC Board of Directors, exchange of electric power grids interconnected to the Egyptian Grid.
8. • Carry out demand forecast for its customers as well as financial and economic forecasts for the company.
9. • Carry out all other works or activities related to fulfilling the company's objectives as well as any work that may be entrusted to it within its scope of work.
10. • Carry out any work that may be entrusted to it by other party, within its scope of work, to realize economical benefit to the company.

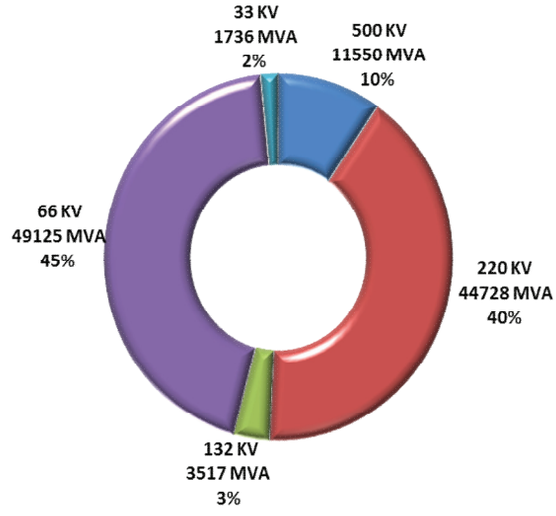
Company	Geographical zone	Headquarter	Equity Capital (Billion EGP)	No. of Shares	Address	Tel.
Egyptian Electricity Transmission Company	Electricity Transmission Grids on extra and high voltages all over the country	Cairo	6.612	6612083	Abbassia , Nasr City	02/22618579 02/26843824

Transmission Network Statistics
(30/06/2016)

Total Substations Capacities:

The total transformers capacities on high and extra-high voltages reached 110656 MVA on 30/6/2016 compared to 103975 MVA on 30/6/2015 at a rate of increase of 6.4%.

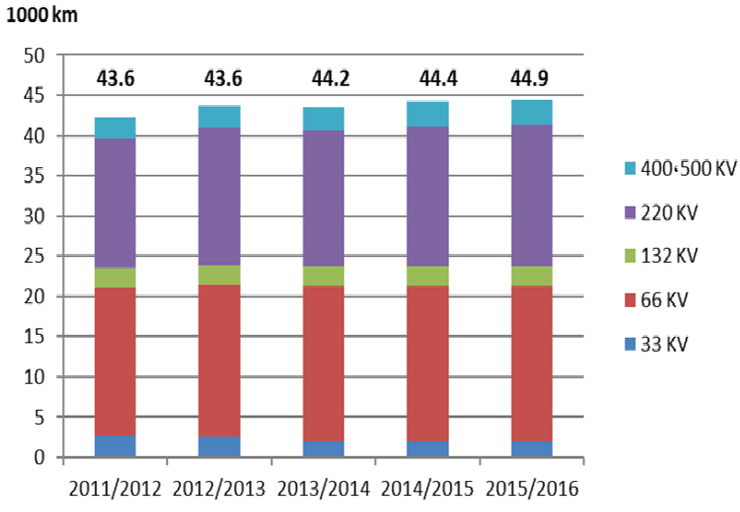


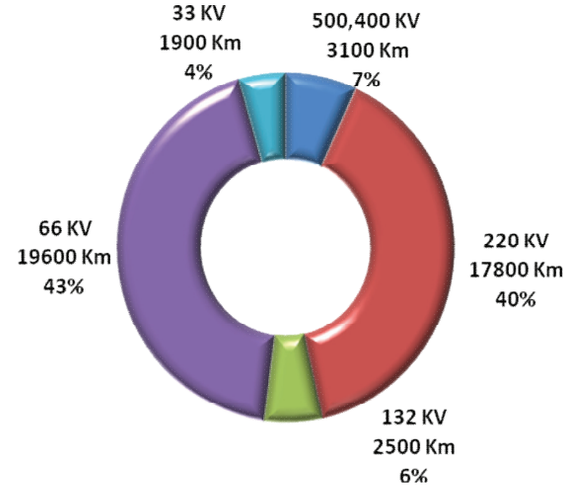


The average growth rate of HV and Extra HV substations capacities is 4.8% per year during the period from 2011/2012 till 2015/2016.

Total Lengths of Circuits (Overhead Lines and Cables):

The total length of transmission lines and cables reached 44.9 thousand Km on 30/6/2016 compared to 44.4 thousand Km on 30/6/2015 at a rate of increase of 1.1%.

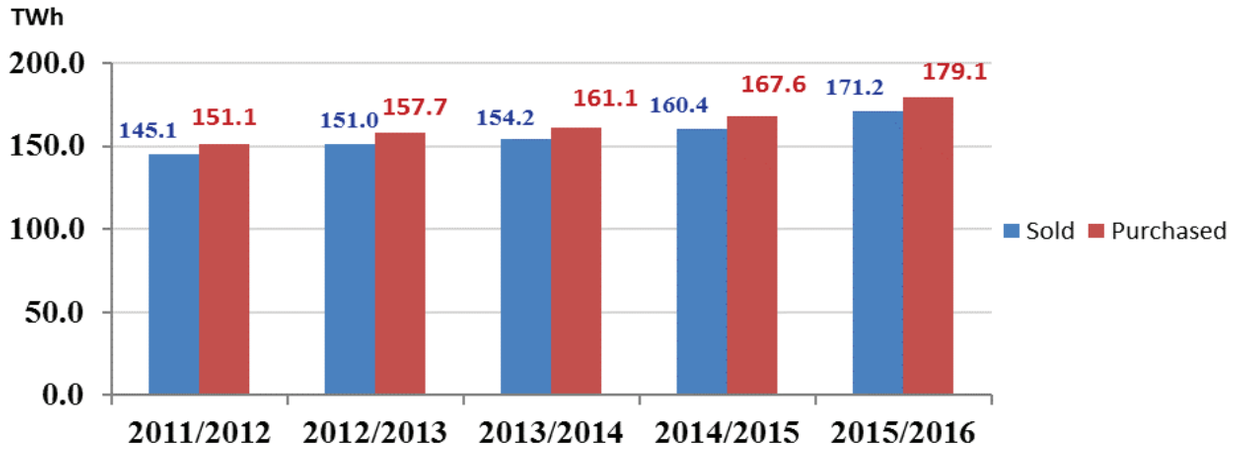




The average growth rate of total transmission lines and cables is 0.7% per year during the period from 2011/2012 till 2015/2016.

Total Purchased and Sold Energy

The total purchased energy in Egyptian Electricity Transmission Company reached 179.1 TWh on 30/6/2016 compared to 167.6 TWh on 30/6/2015 at rate of increase of 6.9%, while the total sold energy over extra and high voltage levels reached 171.2 TWh on 30/6/2016 compared to 160.4 TWh on 30/6/2015 at rate of increase of 6.7%.

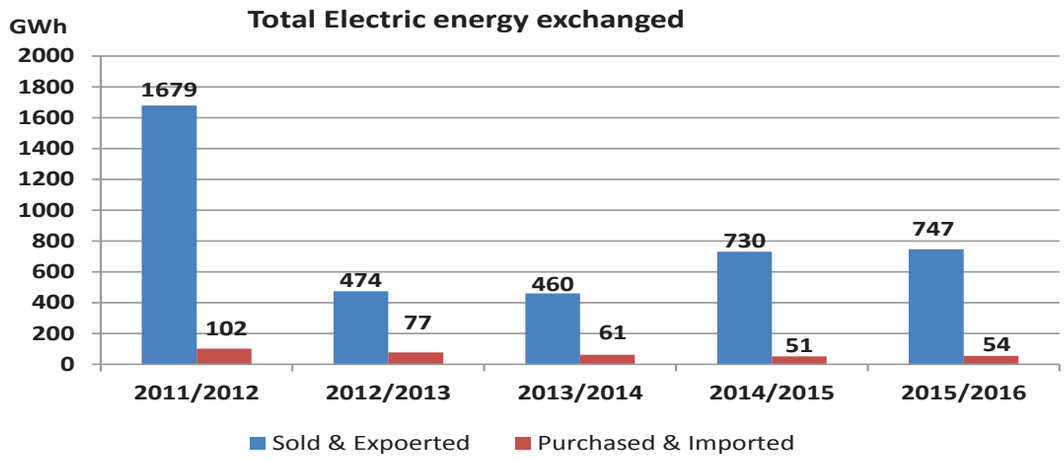


The average growth rate of purchased energy is 4.3% per year while the average growth rate of sold energy over extra and high voltage levels is 4.2% per year during the period from 2011/2012 till 2015/2016.

International Electrical Interconnection

Description	Egypt/Libya	Egypt/Jordan		
Interconnection date	May 1998	Oct 1998		
Interconnection voltage (KV)	220	400		
Interconnected Countries	Libya	Jordan	Syria	Lebanon
Sold & Exported Energy * (GWh)	292	454.7	-	-
Purchased & Imported Energy * (GWh)	15.98	37.8	-	-

* Including electrical exchange.



The annual average rate of the total exported and sold energy has decreased by about 18.3%, and the average rate of the total imported and purchased energy has decreased by about 14.7% per year during the period from 2011/2012 till 2015/2016.

The Egyptian Power sector has always been keen on improving its performance through diversification of electrical energy resources by adopting new policies for energy trade at regional and international level, to be achieved by electrical interconnection with neighboring countries. In pursuing the electrical interconnection system, the power sector is currently implementing the electrical interconnection Egypt/ Saudi Arabia to face the increased electrical demand in both countries through the exchange of about 3000 MW benefiting from the different timing of peak load between the two countries. The following agreements have been signed:

- A memorandum of understanding was signed on 1/6/2013 for launching the electrical interconnection project between the two countries.
- Special Agreements were signed between the electricity companies of the two countries on 12/12/2013 (the interconnection agreement, the operation agreement and the commercial agreement) to implement the project through the Egyptian Electricity Holding Company and the Saudi Electricity company.

Project Implementation Status:

- Tender documents were issued on 6/11/2014 for the construction of the 500 KV interconnection line (Badr / Nabk) for an implementation period of 30 months from the contracting date to be financed from the Arab Fund for Economic Development. The tender was re-published on 18/10/2016 among international firms with amended requirements of previous experience to allow a larger participation of companies.
- On 31/12/2014 the Saudi party issued an international limited tender for the construction of the three AC/DC substations (Badr, Madina, Tabouk) in 36-month execution period from the contracting date with financing secured from Islamic Development Bank for Badr Substation.
- During the periods from 8 to 10/8/2016 and from 16 to18/8/2016, several meetings were held in Riyadh and Cairo, respectively, in the presence of the Project Consultant (TGS) with each tenderer separately to discuss any inquiry related to technical, financial or contractual issues where the tenderers have requested to postpone the date of opening of technical offers from 18/9/2016 to 28/11/2016, and this was followed by a request from the Saudi party to postpone it again to 23/1/2017. Technical evaluation will be conducted by the Egyptian and Saudi parties with the participation of the Project Consultant(TGS).
- The Egyptian party issued a tender on 2/2/2015 for the construction of the submarine cable with an implementation period of 24 months from the contracting date to be financed by the Kuwaiti Fund for Economic Development in respect of the Egyptian component of the project.
- Technical and financial offers for the submarine cable tender were opened on 13/7/2016 and technical analysis has already been completed by both Egyptian and Saudi parties with the participation of the Project Consultant.

It is expected that the project will be partly operated in the fourth quarter of 2019 and be fully commercially operated by the end of 2020.

New & Renewable Energy

In the framework of Egypt's power Strategic plan, the power sector strategy depends on the diversification and expansion of energy resources and rational use of conventional energy resources.

Egypt is endowed with abundant wind energy resources especially in the Suez Gulf area which is considered one of the best sites in the world due to its high and stable wind speeds. The west of Suez Gulf area is considered one of the most promising sites for construction of large wind farms projects due to the high wind speeds ranging between 8-10 meter/second and also due to the availability of large uninhabited desert area. Also there are other promising sites with average wind speeds ranging between 7-8 meters/second in the east and west of River Nile near Beni Suef and Menya governorates.

Moreover, Egypt is one of the countries lying in the solar belt region the most convenient for the solar energy applications. Solar Atlas reveals that the average of vertical solar radiation is between 2000-32000 KWh/m2/year and the rate of solar rise ranges between 9-11 hours/day offering opportunities of investment in the various solar energy projects.

The New & Renewable Energy strategy aims to increase the share of generated energy from renewable energy to 20% out of the total generated energy in Egypt by 2022, out of which 6% from hydro sources, 12 % from wind energy and 2% from other renewable energy sources especially the solar energy. The strategy includes the construction of wind projects with the participation of the private sector to bring the total installed capacity to 7200 MW by 2022.

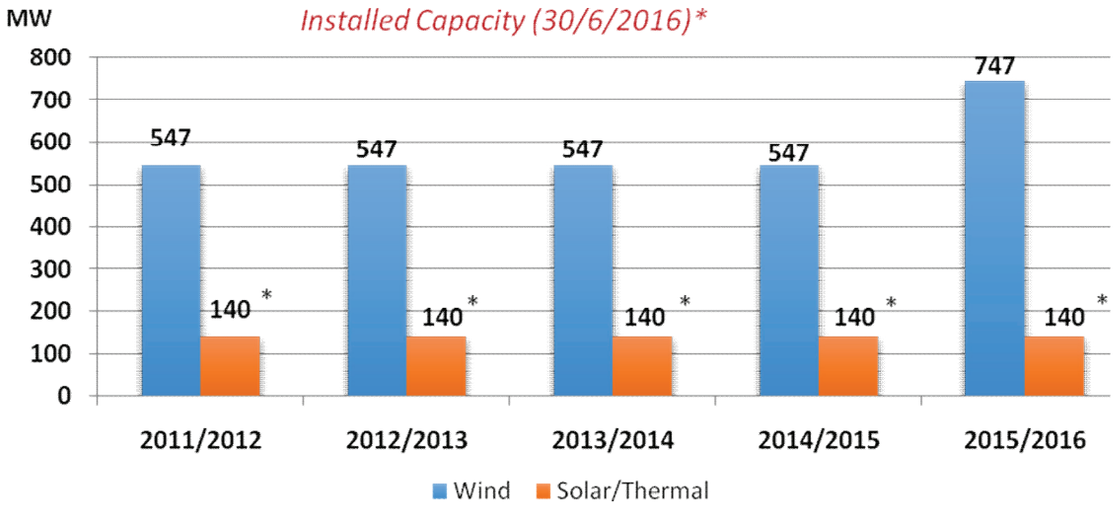
The Egyptian Electricity Holding Company is coordinating with the New and Renewable Energy Authority (NREA) in the following fields:

- Generation planning considering the share of renewable energy in the generation mix.
- Network planning needed for the evacuation of the generated power from renewables.
- The Egyptian Electricity Transmission Company (EETC) is issuing competitive biddings for the construction of renewable energy projects to pre-defined locations through BOO scheme.
- Steps for signing the purchase agreement of the renewable energy generated from the private sector plants are bing taken as a result of the current coordination between EETC and NREA under EEHC supervision, through BOO with total capacity of 1000 MW as following:
  1- Wind energy project 250 MW at the Gulf of Suez.
  2- Solar power plant 200 MW project at Kom Ombo.
  3- Renewable Energy Projects with total capacity of 550 MW at west of the Nile River as follows:
    - 250 MW wind energy.
    - 200 MW Photo Voltaic (PV).
    - 100 MW from concentrated solar thermal (CPS).

EEHC and its affiliated companies have taken the initiative to install solar photo voltaic (PV) systems on the top roof of their administrative buildings after selecting the suitable locations for mounting them, where the following has been achieved.

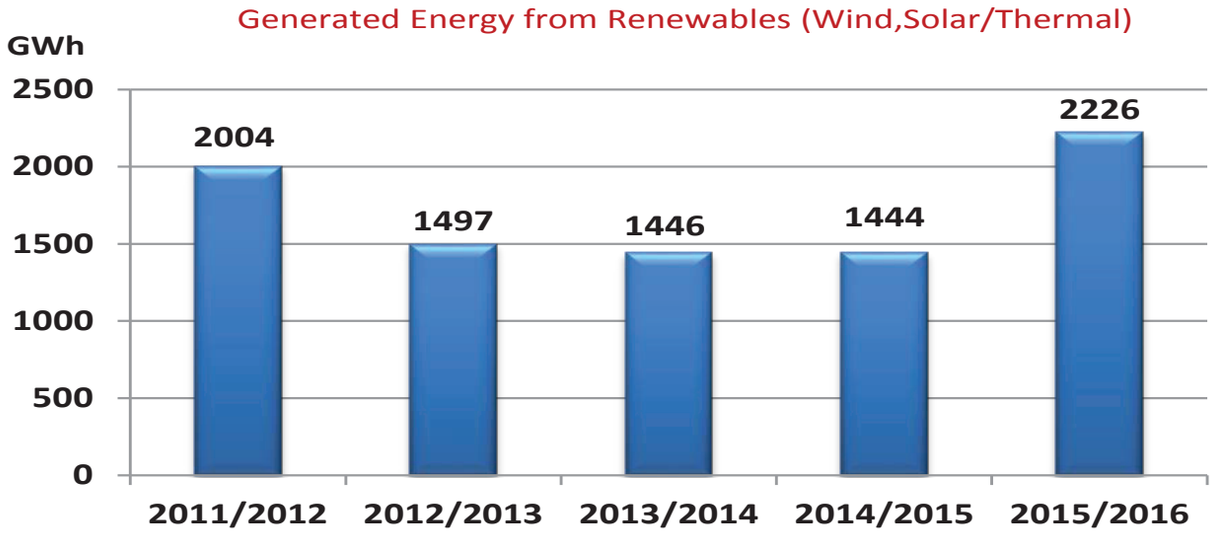
- 80 solar PV systems have been mounted with a total capacity of 1800 KW on the top roof of EEHC and its affiliated companies' buildings, 48 solar photo voltaic (PV) systems are under implementation with a total capacity of 1020 KW.
- In addition, some of the customers have implemented 51 photo voltaic plants totaling 1650 KW interconnected to the grid benefiting from the feed-in-tariff, other 33 plants with a total of 2390 KW are expected to be implemented.

Statistics of Installed Capacity and Generated Energy (Wind, Solar/ Thermal)



There are 5 MW Wind farm at Hurghada connected to Canal Distribution Network.

* The first solar thermal power station for electricity generation has been put into commercial operation since 30/6/2011 in Kuriemat with capacity of 140 MW out of which 20 MW from the solar component, based on concentrated solar power through parabolic troughs integrated with combined cycle power plant using natural gas as fuel.



The average rate of generated energy is 2.7% per year during the period from 2011/2012 till 2015/2016.

The generated energy from Renewable Energies mainly depends on wind speed & solar irradiance.

Feed in Tariff for Renewable Energy Projects (Wind - Solar)

- Within the importance given by the Egyptian Government to all activities related to production, transmission, distribution and consumption of electrical energy to secure availability and sustainability of electricity supply to all sectors at an affordable price and environmental protection, the Cabinet approved on 20/9/2014 the feed-in-tariff to encourage electricity generation from renewable energy resources, where the electricity companies: (the transmission company or the distribution companies) will buy the produced energy at a predetermined price with an attractive return on investments through long term purchase agreements up to the end of lifespan of the project (20 years for wind projects, 25 years for solar projects).
- One of the main objectives of encouraging production from renewables is to maximize its share in the generation mix due to the positive impact on environment and maximize the utilization of oil and natural gas resources. It will also encourage local and international investors to invest in renewable energy projects opening the door to local industry investing in the manufacture of projects components.
- **The feed-in-tariff projects are implemented and regulated through the following:**
  - **Legal framework**:

    The law no. 203 of 2014 has been issued to encourage investing in renewable energy projects through allocation of State owned lands for the renewable energy projects and oblige the electricity companies to buy this energy through developed attractive mechanisms.
  - **Contractual frame:**

    This includes a long term (20-25 years) contracts and purchase agreements between the electricity companies (Transmission or distribution company) and the investors.
- The plan is to reach total capacities from the feed in tariff projects during the first and second phases up to 4300 MW (2300 MW from solar energy and 2000 MW from wind energy).

Considering the foregoing, the feed-in-tariff projects (wind and solar) have already been tendered through two phases:

First Phase:

- The Cabinet issued a decree on 20/9/2014 approving the feed in tariff for the new and renewable energy with total capacities of 4300 MW (2000 MW from wind energy and 2300 MW from solar energy) to be implemented by 27 October 2016 where the following actions have been taken:
  - The Request for submission of prequalification was announced in national newspapers in October 2014 for implementation of feed in tariff projects and the qualified investors have been selected.
  - An agreement has been signed for cost sharing of investments with qualified investors for the construction of solar energy projects at Benban.

- A limited tender has been announced among specialized consulting firms for the selection of an independent consultant under the cost sharing agreement, financial and technical offers have been evaluated and negotiations have been conducted with the selected firm.
- A limited tender has also been announced among specialized firms for the construction of interconnection substations at Benban, currently under construction by EGYMAC company.
- 9 qualified investors have fulfilled the requirements of the first phase by submitting the necessary documents for financial closure based on financing 85% of total investments in foreign currency from abroad before 27/10/2016.

Second Phase:

- The second phase of the feed-in-tariff program was announced on 6/9/2016 including the following:
  - Modification of prices and terms of power purchase from wind and solar energy projects.
  - These modifications are applied as of 28/10/2016 with financial closure in one year for the solar projects and one and a half year for the wind projects.

The second phase of the feed-in-tariff program applies only for the qualified investors of the first phase (2000 MW wind and 2300 MW solar) and in case of failure to achieve this target, new investors will be able to apply.

- Financing of wind projects should be 60% from foreign sources and 40% from local sources, while financing of solar energy projects should be 70% from foreign sources and 30% from local sources.
- On 8/9/2016 all qualified investors in the feed-in-tariff program were contacted to confirm whether they intend to continue or withdraw from the program, and in the latter case they would be refunded their dues in the cost sharing agreement. Letters of consent have been received from (30) of the first phase qualified investors confirming their participation in the second phase of the program.

For more detailed information please visit the following web sites:

www.egyptera.org-www.nrea. gov. eg

Electric Power Distribution

Distribution Companies:

- North Cairo Electricity Distribution Company
- South Cairo Electricity Distribution Company
- Alexandria Electricity Distribution Company
- Canal Electricity Distribution Company
- North Delta Electricity Distribution Company
- South Delta Electricity Distribution Company
- Beheira Electricity Distribution Company
- Middle Egypt Electricity Distribution Company
- Upper Egypt Electricity Distribution Company

Objectives:

1. •Distributing and selling the electric energy to customers on medium and low voltage, which is purchased from the Egyptian Electricity Transmission Company and from the Egyptian Electricity Production Companies on medium voltage , and also electric power purchased from industrial sector and other IPP`s in case of exceeding their needs, provided the approval of EEHC Board of directors.
2. •Managing, operating and maintaining the medium and low voltage grids, according to the dispatch centers instructions and in consistency with the requirement of economic operation.
3. •Preparing forecast studies on load and energy for company's customers and economic and financial forecast for the company itself.
4. •Conducting studies, researches, designs and implementing power projects for supplying electrical power to different purposes on the medium and low voltages and carrying out all associated works.
5. •Managing, operating and maintaining isolated generation units which isn't connected to unified grid.
6. •Carrying out any other works or activities related to or fulfilling the company's objective, in addition to any other work that may be entrusted to the company by the EEHC within its scope of work .
7. •Carrying out other works entrusted to the company by other parties, within its scope of work, which achieve an economic benefit for the company.

Medium and low Voltage for Distribution Companies

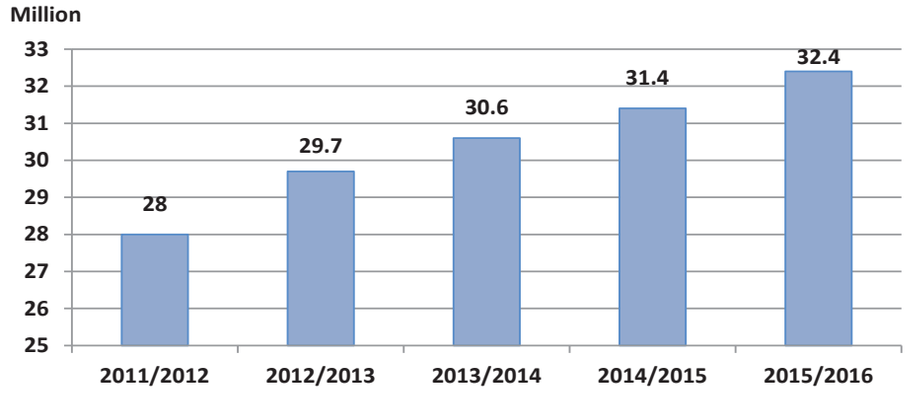
(30/06/2016)

Item comp.		North Cairo	South Cairo	Alex.	Canal	North Delta	South Delta	El Behera	Middle Egypt	Upper Egypt	Total
No. of Customers (Million)		4.2	5.2	2.6	3.8	3.8	4.3	2.2	3.4	2.9	**32.4**
Sold Energy GWh		18491	24220	9336	22097	12259	11434	9637	14936	11210	**133620**
Purchased Energy GWh		21110	28099	10503	23948	14251	12668	11130	16295	12480	**150484**
No. of Switchboards		390	368	235	1226	197	206	265	143	106	**3136**
Percentage (%)		12.4	11.7	7.5	39.1	6.3	6.6	8.4	4.6	3.4	**100**
Length of MV Network (km)	Lines	197	2978	577	15053	9958	7804	14251	17912	10961	**79692**
	Cables	22134	22527	11490	19834	6435	4317	5198	6533	7314	**105783**
	Total	22331	25505	12067	34887	16393	12121	19449	24445	18275	**185475**
Length of LV Network (km)	Lines	3288	4578	3717	31504	22896	18161	20556	35114	31466	**171280**
	Cables	36345	34469	6215	15557	3014	906	2773	2716	2147	**104143**
	Total	39633	39047	9932	47061	25910	19067	23329	37830	33613	**275422**
Total Length of MV&LV Lines & Cables (Km)		61964	64553	21999	81948	42303	31188	42778	62276	51888	**460898**
Percentage (%)		13.4	14	4.8	17.8	9.2	6.8	9.3	13.5	11.2	**100**
No. of Customers(Th)/ Total Length (Km)		0.068	0.08	0.12	0.05	0.09	0.14	0.05	0.06	0.06	**0.07**
Sold Energy (GWh) / Total Length (Km)		0.3	0.38	0.42	0.27	0.29	0.37	0.23	0.24	0.22	**0.29**
No. of Distribution Transformers		16552	20662	8245	32066	17049	16393	21170	23838	21381	**177365**
Percentage (%)		9.3	11.6	4.7	18.1	9.6	9.2	11.9	13.4	12.1	**100**
Sold Energy (GWh)/ No. of Transformers		1.12	1.17	1.13	0.69	0.72	0.7	0.46	0.63	0.52	**0.75**
Capacity of Distribution Transformers MV		14248	12747	5266	12905	5140	4971	4672	5889	5264	**71103**
Number of LV Pillars and Panels		56629	55259	8254	45536	18941	16496	26449	13671	22645	**263880**
Percentage (%)		**21.5**	**20.9**	**3.1**	**17.3**	**7.2**	**6.3**	**10**	**5.2**	**8.6**	**100**

Distribution Companies Statistics
(medium and low voltages)

1- Number of subscribers

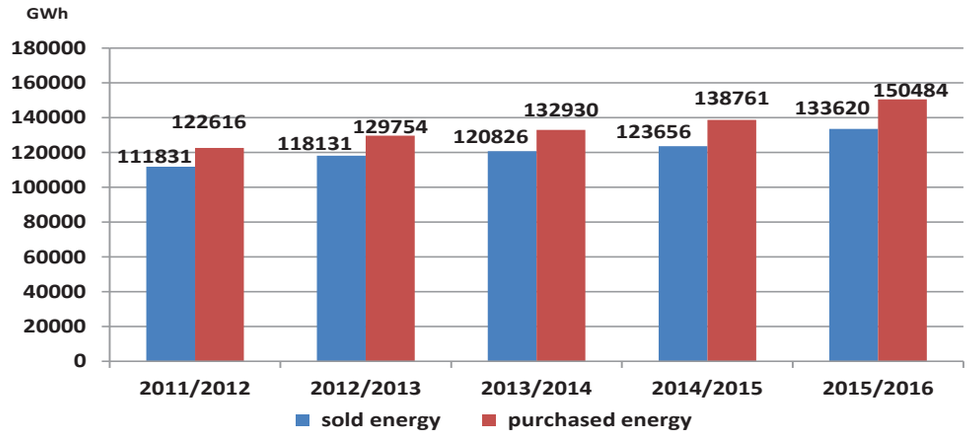
On 30/06/2016 the total number of customers on medium and law voltages reached about 32.4 million customers compared to 31.4 million customers on 30/6/2015 at a rate of increase of about 3.2%.



The average growth rate of customers is 3.7% per year during the period from 2011/2012 till 2015/2016.

2- Total amount of purchased and sold energy

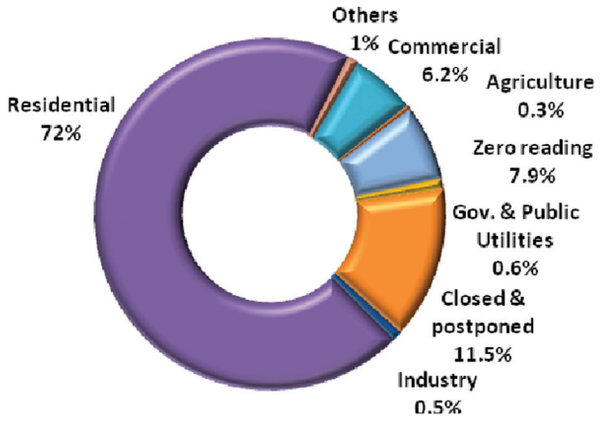
On 30/06/2016 the total number of purchased energy in Distribution Companies reached 150484 GWh compared with 138761 GWh on 30/06/2015 at a rate of increase of 8.4%, while the total number of the sold energy on medium and low voltages reached 133620 GWh against 123656 GWh on 30/06/2015 at a rate of increase of 8.1%.



The average growth rate of sold energy is 4.6%, while the average growth rate for the purchased energy is 5.3% per year during the period from 2011/2012 till 2015/2016.

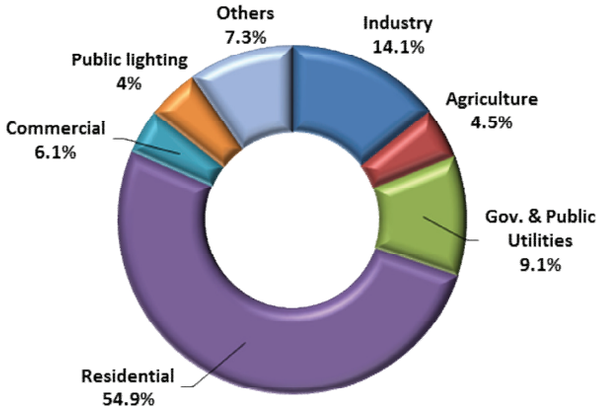
3- Number of Customers (on medium and low voltages) According to Purpose of Usage

Purpose of Usage	No. of Customers (Thousand Customer)
Industry	152
Agriculture	110
Government & Public Utilities	210
Residential	23308
Commercial	2020
Closed & postponed	3730
Zero reading	2570
Others*	330
Total	32430



4- Energy Sold by Distribution Companies (on medium and low voltage) According to Purpose of Usage

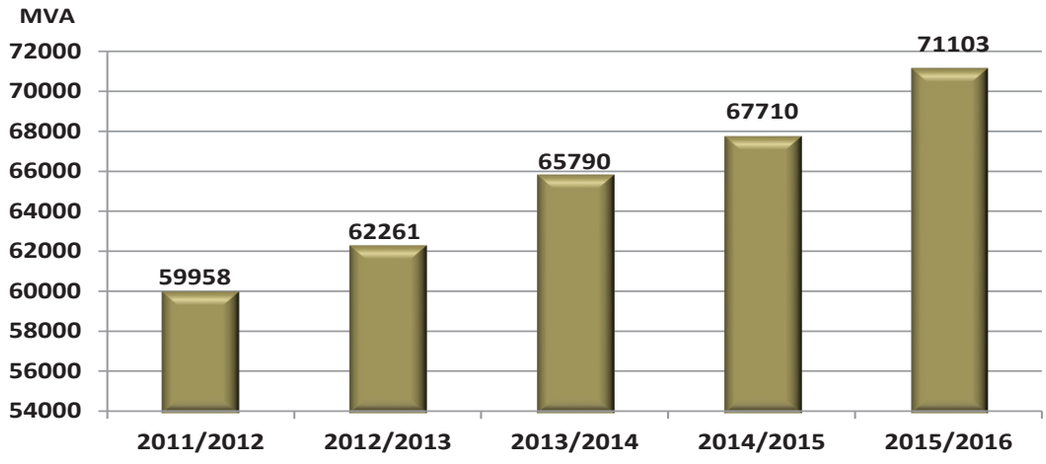
Purpose of Usage	Sold Energy (GWh)
Industry	18838
Agriculture	6027
Government & Public Utilities	12107
Residential	73361
Commercial	8216
Public lighting	5293
Others*	9778
Total	133620



* Others: power theft, youth centers,…….

5- Total Distribution Transformers Capacities (on medium and low voltages)

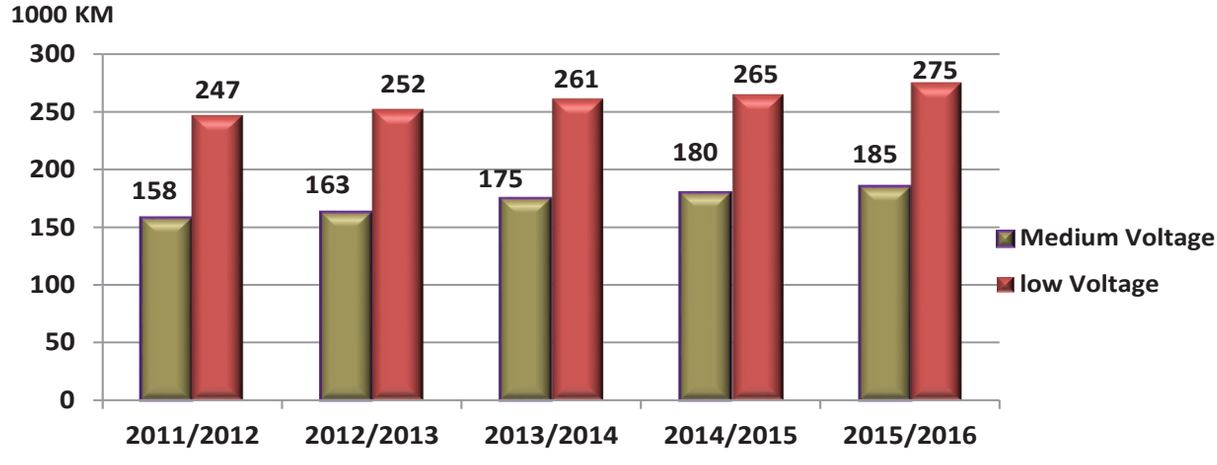
The total capacities of distribution transformers reached 71103 MVA on 30/6/2016 compared to 67710 MVA on 30/6/2015 at rate of increase of about 5%.



The yearly average growth rate of distribution transformers capacities is 4.4% during the period from 2011/2012 up to 2015/2016.

6- Total Lengths of Overhead Lines and Cables (on medium and low voltages)

The total length of medium voltage overhead lines and cables reached about 185 thousand km on 30/6/2016, compared to 180 thousand km on 30/6/2015, at a rate of increase of 2.8%, while the total length of low voltage lines and cables reached about 275 thousand kms compared to 265 thousand kms on 30/06/2015 at a rate of increase of about 3.8%.



The average growth rate of the total length of medium voltage overhead lines and cables is 4% per year, while the average growth rate of the total lengths of low voltage overhead lines and cables is 2.7% per year during the period from 2011/2012 till 2015/2016.

Improving Customer Service

▪ Development of customer service centers:

- The distribution companies are continuously developing their customer service to improve quality of provided services. Such development included the following:
  - Renovation of the buildings of customer service centers (including outdoor and indoor renovation, lighting system, furniture, customers' reception halls, and ventilation).
  - Acquainting service applicants with the procedures and documents required for each type of service through clear informative panels.
- The number of renovated main service centers reached about 422 centers in cities out of 433 centers in total, and 711 branches in villages for the year 2015/2016 to facilitate reporting of damages and ensure speedy repairs.

▪ Improving Commercial Services:

– Automation of provided services using computerized systems.

– Simplifying commercial services for different types of contracts, (e.g. new supply contracts, reinforcement or modification of contract, main and temporary connections, changing place of boxes or meters).

– Automation of meter readings and use of electronic meters.

- Provide complete services through one window.

▪ Administrative reform of the centers:

– The Ministry of Electricity and Renewable Energy, aiming to facilitate customer service and simplify needed procedures for electricity connections, has achieved the following:

1. formulating five forms for public services as follows:
   - Request for connecting electricity to buildings (all purposes of consumption).
   - Request for meter testing and calibration.
   - for meter disconnection.
   - Request for obtaining information about customer consumption.
   - Request for the installation of power factor correction devices (capacitors) upon customer request.
2. Issuing a directory for connecting electricity to projects including all required steps, procedures, documents, connection charges and approvals needed as well as payment methods, also an official representative from the Ministry of Electricity and liaison officers from the transmission and distribution companies are assigned to finalize all required procedures for investors.
3. Issuing a directory for connecting electricity to residential buildings in urban and rural areas including rules for defining the total area of the house and the design capacity according to living standard in urban, rural and districts. It also includes all procedures, documents, and approvals needed for connecting electricity to any house, the bases for calculating the connection charges, the time schedule for connection and the conditions for the availability and specifications of the room for the installation of distribution transformers.

▪ Customer Service through a Unified call number (121):

- Customer service have been developed to respond to customers through a unified call number (121) where the service activation has been assigned to a local specialized company under supervision of EEHC.
- The project consists of provided service through a third neutral party to ensure high level of service complying with international standards.
- The customer, through this service, will be able to report complaints or request technical or commercial inquiries that will be answered through a highly competent technical team to complete the service within the specified criteria for each service.
- Through the project, performance of distribution companies will be evaluated based on fast response towards customer complaints and action taken on behalf of the company to resolve them, this service will cover all distribution companies by December 2016.
- Moreover, in case of any problem concerning electricity bills, a customer will be able to send an SMS to the following number (91121) or send a copy of the electricity bill and meter image from the customer's mobile application through the following WhatsApp numbers:

	Company	WhatsApp number
1	North Cairo	01283388888
2	Cairo South	01278117626
3	Alexandria	01289533661
4	Canal	01270003430
5	Delta North	01097217682
6	Delta South	01207774849
7	Beheira	01000549020
8	Middle Egypt	01200000724
9	Upper Egypt	01002822513

▪ Activation of meter readings through mobile application:

- A new application has been launched for recording monthly meter reading through a mobile application, in addition to an SMS from the electricity company to inform the customer on the date of providing the reading.
- Through this application, a customer will be informed of the electricity consumption, the amount of the bill, any inquiry concerning previous bills and how to calculate the electricity bill through the site EgyptERASeS application for Egyptian Smart Electricity Services or downloading the mobile application on the customer mobile.

▪ Use of insulated conductors instead of non-insulated:

- Use of insulated conductors instead of non-insulated conductors in the low voltage network, without any additional cost borne by the customers, to protect them from fire dangers due to the falling of non- insulated conductors.
- The total length of the insulated conductors installed in the distribution network reached about 580 thousand km on 30/6/2016 representing 88% of the total low voltage network of electricity distribution companies.

For more information kindly visit the following web site: **http://www.eehc.gov.eg**

Smart Meters and Prepaid Meters

The Ministry of Electricity and Renewable Energy Plan is to supply electricity to all sectors of customers with a high level of availability and sustainability by applying recent technological solutions through the use of smart and prepaid meters, this will improve the technical and commercial network performance; in this regard the Egyptian Electricity Holding Company is implementing an ambitious program for applying the use of smart meters and prepaid meters to gradually replace the existing meters all over the country with the aim of improving the network performance, managing the energy demand more efficiently in addition to decreasing the network losses. To implement this program, the following measures have been taken:

1- Smart Meters:

- The smart meter is an electric meter that measures the electricity consumption through intervals of time and keeps the readings in a built in memory then sends it at least once a day to the electricity distribution company, the smart meter is also known to be a device capable of performing many functions in addition to the reading of the amount of energy consumption, such as remote reading, prepaid system, ToU daily tariff, remote control for management of electricity consumption, storing of consumption profile, record of feed in electricity to the network.
- The smart meter requires an advanced metering infrastructure in addition to communication infrastructure to allow exchange of information between meters and the central computer system allowing sending, storing and data processing.
- Due to the impact of using smart meters on improving system technical and commercial performance, a protocol of cooperation has been signed between the Egyptian Electricity Holding Company and the National Defense Council to benefit from their technical and execution expertise to support securing and development of information and establish a data base in the field of application of smart meters where a pilot project will be implemented to install 250 thousand smart meters within the geographical area of 6 distribution companies (Cairo North, Cairo South, Alexandria, Canal, Delta South and Middle Egypt) and to ensure confidentiality of information and data of these companies it was resolved to establish the main data center at the Egyptian Electricity Holding Company.
- The project is to be implemented through two parallel phases where on 23/6/2016, the tender documents and technical specifications concerning meters, concentrator and head end were issued in addition to the tender documents and technical specifications of the establishment of the data center, network and management system of smart meters.

It is expected to award contract of the two phases in December 2016.

2. Prepaid Meters:

- The use of prepaid meters has started since 2011 and expanded in 2014 where about 2.3 million meters have already been installed up to September 2016.
- To encourage local manufacture of prepaid meters, a limited tender was issued in June 2016 for the supply of 850 thousand single phase meters and 150 thousand three phase meters to the distribution companies.

3. Prepaid Coded Meters:

- The Ministerial decree no. 254 of 2016 was issued on 9/5/2016 to regulate the implementation of the Cabinet decision number 886 for year 2016 for mounting the prepaid temporary coded meters to the facilities and buildings which are illegally fed from the electricity network. The decree also included the following:
  - * The temporary prepaid coded meter although mounted does not entail any legal rights for violators and is not considered as a deed of ownership or acquisition nor legalizing the situation.
  - * The prepaid coded meter is temporarily installed until one of the following two events occurs whichever comes first: 1) legalizing the situation of the facility or the building to be eligible for electric supply as per the approved legal requirements, or, 2) executing the administrative decision or adjudication for removing the building or the facility which is illegally supplied from the network.
- The number of prepaid coded meters that have been installed from first of June 2016 and up to end of October 2016 reached nearly 60 thousand meters.

4. A Unified Program for the Management of the prepaid meters' system:

- A contract was signed on 19/6/2016 with the National Service Projects Organization for implementing a project for the interconnection of data center branches to the main data center of the Company where it is expected to be fully operated by June 2017.

Energy Efficiency Improvement and Conservation

The Strategy adopted by the Egyptian Power sector includes, among others, energy efficiency improvement on supply as well as demand side to ensure a sustainable and reliable supply of electricity, reduce greenhouse gas emission and mitigate the effects of climate change.

The power sector has undertaken several initiatives and measures towards energy efficiency and conservation in the various sectors of consumption as follows:

First: Use of High Efficient Lighting Systems in the various sectors:

Street Lighting:

- A contract has been signed between the Ministry of Local Development, the Ministry of Electricity and Renewable Energy and the Arab Organization for Industrialization for the supply of more than 3.9 Million high-pressure sodium streetlights (100 and 150 watt) and LED lamps to be installed all over the country; more than 1.25 million lamps have been delivered of which 1.2 Million have already been installed by end of October 2016 where the yearly power savings by the end of the project are expected to reach 2466 GWh and fuel savings of nearly 606 thousand tons of HFO equivalent per year.

Residential Lighting:

- The Ministry of Electricity and Renewable Energy has launched an initiative for distribution of 13 Million LED lamps with different wattage to the customers of residential sector, all lamps have been delivered based on approved results of energy efficiency tests, 9.5 million lamps have been sold up to 31/10/2016 where the yearly power savings after distribution of the total number are expected to reach 1124 GWh and fuel savings of about 276 thousand tons of HFO equivalent per year.

Administrative and Governmental Buildings:

- Several pilot projects have been implemented at different types of buildings including private and public buildings in different sectors such as banks, super markets, hotels… for replacing lighting systems by efficient ones using LED technology and installing capacitor banks for power factor correction, all projects have achieved tangible savings which led to replication on a larger scale in these sectors, based on the success of this pilot projects, a second phase is currently underway for implementing similar pilot projects at governmental buildings.

Second: Awareness Program on Energy Efficiency and Conservation Importance:

- The Ministry of Electricity and Renewable Energy and the Egyptian Electricity Holding Company have launched a National Initiative entitled (Enta El Hal) (You are the solution) supported by the Central Bank of Egypt and aiming to increase customers' awareness on the importance of energy efficiency and conservation, the initiative was launched through the media, street ads and social media and presented solutions and effective tips for energy conservation. The initiative has achieved its target in changing the customer behavior leading to increasing the market size of the high-quality LED lamps to 40 Million lamps.

Third: Increase Efficiency of Household Electric Appliances through the Standard and Labeling Program:

The Egyptian Minimum Energy Efficiency Performance Standards (MEPS) have been issued for TVs, and specification standards are being developed for more appliances including water pumps, electric ovens, vacuum cleaners, inverter compressors, solar panels and solar heaters.

To ensure specification effectiveness and verify manufacturers' compliance with the issued MEPS, the following accredited testing laboratories have been established:

- Energy Efficiency testing laboratory for dish washers at New & Renewable Energy Authority.
- Energy Efficiency testing laboratory for water pumps at General Organization for Import and Export Control.
- Energy Efficiency testing laboratory for TVs and display screens at Egyptian Organization for Standards and Quality.
- Energy Efficiency testing laboratory for electrical ovens at General Organization for Import and Export Control.
- Energy Efficiency testing laboratory for inverter compressors at New & Renewable Energy Authority.
- The Energy Efficiency testing laboratory for electric motors to be constructed at General Organization for Import and Export Control is tendered and offers are under evaluation.
- To activate the new monitoring mechanism for the standard and labeling program, an Energy Efficiency Unit has been established at the Egyptian Organization for Standards and Quality (EOSQ) by the Ministerial decree no. 171 issued in 2011. The purpose of this unit is to monitor the implementation of the Standard and Labeling Program and release the energy efficiency labels affixed to the appliances indicating the level of consumption based on results of energy efficiency test labels.
- Coordination between Egyptian Organization for Standards and Control, the Consumer Protection Agency (CPA) and the Ministry of Supply and Internal Trade (Internal Control Department) for verifying the presence of the label on the appliances as a first stage of the monitoring system aiming at:
  * Confirming first, the presence of the energy efficiency label on displayed appliances in shops.
  * Verifying that the affixed label is the one issued by the Egyptian Organization for Standards and Control
- The Minister of Electricity and Renewable Energy has issued a decree for planning the future program for the establishment of energy efficiency testing laboratories and develop policies and regulations ensuring and enhancing the use of high efficient electrical appliances.

Information about Distribution Companies

Distribution Company	Geographical zone	Headquarter	Equity Capital (million EGP)	No. of Shares	Address	Tel.
North Cairo	North and East Cairo Sectors, New Cairo, El-Obour and El-Salam city in Cairo Governorate, Khanka, Shoubra Elkhima and Elkanater in Kalupya Governorate	Cairo	306.685	30668500	2 Nasr Road - Nasr City	02/22725095 02/22724409
South Cairo	South Middle and West Cairo Sectors in Cairo Governorate & Giza Governorate	Cairo	437.444	43744400	53,26th July St., Cairo	02/25766612 02/25760383
Alexandria	Alexandria Governorate to Kilo 66 Alex/ Matrouh Road	Alexandria	195.443	19544350	9 Sedi El-Metwalli St., Attarien -	03/3933223 03/4948107
Canal	Ismailia, PortSaid, Suez, Sharkia, North Sinai, South Sinai & Red Sea Governorates & New Cities	Ismailia	497.338	49733750	Osman Ahmed Osman Square, El-Sheikh Zayed, Ismailia	064/3209600 064/3208240
North Delta	Dekahlia, Damietta & Kafr El-Sheikh Governorates	Dakahlya	449.246	44924600	Gomhorya St.,	050/2304186 050/2304177
South Delta	Qalubya (Exept Great Cairo extention) Menoufia (Exept El Sadat City, El Khatatba)& Gharbia Governorates	Gharbia	357.439	35743900	Tanta- Kafr El Sheikh Road	040/3455516 040/3455519
El Behera	El Behera, Matrouh, (Beyond K66 Alex/ Matroh Road), Governorates, Sadat City & Khatatba Distriet in Menoufia Governorates	El Behera	342.537	34253700	EL-Gomhorya St.	045/3221509 045/3324399
Middle Egypt	Beni Suif, Fayoum, Minia, Assiut & New Vally Governorates	Minia	474.843	47484350	78 Horrya St.	086/2346733 086/2353527
Upper Egypt	Sohag, Qena, Aswan and Luxor Governorates	Aswan	435.766	43576600	High Dam – West Aswan	097/3480416 097/3480317

Human Resources and Training

Considering the care of the Egyptian Electricity Holding company (EEHC) to keep up with the latest changes and global trends aiming to achieve the intensive care of human resources as a real pillar and foundation to realize its strategic objectives, EEHC and its affiliated companies are doing their best to develop their human resources.

The following are the most important indicators of human resources at EEHC and the affiliated companies:

First: Man power:

On 30/06/2016 the total number of employees amounted to 169933 employees in comparison with 174876 employees on 30/06/2015, in decline of (4943) employees due to retirement, death of some employees in addition to suspension of new recruitments.

The following is a statistic of the number of employees of EEHC and affiliated companies on 30/06/2016:

EEHC Total = 2790

- Head Quarter = 2061
- Electricity Hospital = 729

Production Comp. Total= 33820

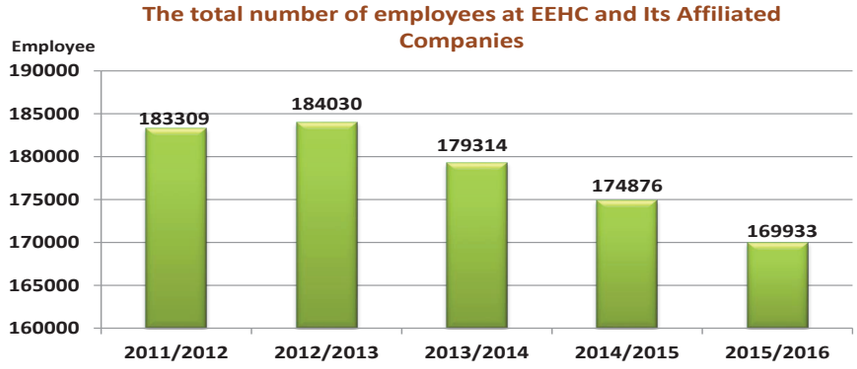
- Cairo = 5480
- Middle Delta = 6596
- Upper Egypt = 3146
- East Delta = 7093
- West Delta = 8150
- Hydro Power Pl. = 3355

Egyptian Electricity Transmission Comp. Total = 31096

Distribution Comp. Total =102227

- North Cairo = 12784
- Alexandria = 12509
- North Delta = 8494
- El-Behera = 8259
- Upper Egypt = 7708
- South Cairo = 17410
- Canal = 15911
- South Delta = 9800
- Middle Egypt = 9352

The total number of employees at EEHC and affiliated companies 169933



The yearly average decline rate of the total number of employees at EEHC & its affiliated companies reached 1.9% for the period from 2011/2012 till 2015/2016.

Second: Development of human resources:

EEHC's leadership believes that human resources could intensively affect the production process, hence EEHC is continuously developing the human resources capacity, and raise their ability in dealing with technological development and its innovation, especially under the issuance of the unified electricity law and the encouragement of the private sector to invest in energy sector, which creates a competitive environment. In consequence, it was a must to change our policy and strategy to enable EEHC and its affiliated companies to meet the challenges to ensure continuity and in this regard the following measures have been taken: -

- A new vision for EEHC and its affiliated companies has been developed in coordination with the current vision of Egypt to achieve sustainable development.
- Development of a unified Mission for EEHC and its affiliated companies.
- Development of the human resources strategy integrated with the Company's strategy.
- The Company implemented the main axes of the strategy for the development of human resources and concentrated on building a new culture based on performance quality, accountability and the creation of a more diverse work force.
- Currently an analytical study of the organizational structures of the affiliated companies is underway to be unified in similar companies.

Third: Health Care:

In the context of performance development and improvement of the medical service provided to Electricity sector employees, Electricity Hospital has been developed and renovated where the following have been done: -

- Addition of a new operations room attached to the unit of ophthalmology and eye internal research for the eye injection.
- Establishment of Viral Hepatitis unit which helped in curing all the waiting lists of patients, and currently treatment is provided to the patients without any delay.
- Implementation process of the development of the public power supply system of the hospital, and the replacement and renovation of boilers, MediBurn generators and pipelines as well.
- Renewal and development of the fourth suite and upgrading the level of hotel service by self-efforts, and introduction of surveillance cameras and a central communications satellite was added.

These efforts have led to increase revenues which amounted to EGP 208 million in 2015/2016 at a growth rate of 40% compared to last year, and a surplus of about EGP 10 Million was achieved compared to a deficit in the past year 2014/2015 of approximately (EGP 8.6 Million) at a growth rate of about 217%.

Fourth: Training and capacity building:

The strategic objective of training is to contribute to the Company's success and continuity through the development of an appropriate training plan that maintains a high level of skills and competitiveness of workers, the outstanding performance and continuous improvement through the development of the workforce and refining their skills and enabling them to perform their roles that they contribute in achieving the objectives of the Company and achieving the overall effectiveness of these objectives.

In the context of the new strategy adopted by the Egyptian Electricity Holding company to develop and improve the efficiency of the training system, the following measures have been taken: -

- A guide book for the training needs during the career path for employees has been introduced to improve the level of workforce in preparation for inclusion in the job description cards.
- Building integrated database that includes employee data, training programs and cost.
- Building a strategy to restructure the training centers of the Holding Company and its affiliated companies where the current situation is analyzed and assessed through field visits to identify best practices of development and identify the gap and the preparation of development and follow-up plan through the development of indicators to evaluate the achievement of the desired objectives.
- Evaluation of internal and external training programs and develop a mechanism to measure the gain of the training process and work to raise the level of efficiency and performance of those who are in charge of training activities.
- Preparation of plans and training programs designed to develop competencies.

The Total number of trainees of the Holding Company and its affiliated companies has reached 40,864 trainees in 2015/2016, inside and outside Egypt as follows:

No.	Report	Number
1	Total number of trainees from EEHC.	685
2	Trainees from affiliated companies.	33702
3	Trainees from Ministry of Electricity and Renewable Energy.	133
4	Conferences and seminars in various training fields at EEHC,	154
5	Conferences and seminars in various training fields from EEHC for affiliated companies.	371
6	Conferences and seminars in various training fields at affiliated companies.	5799
7	Cooperation with Faculty of Engineering, Cairo University for getting steam power plants Diploma.	19
	Total	40863

- According to the agreement with the Ministry of Education and from social responsibility of EEHC, joint industrial education classes have been established as follows:

System	Companies	Year 2015/2016	
		Number of Enrolled	Number of Graduated
Technical education industrial the couple (3 years System)	• Egyptian Electricity Transmission Company • South Cairo Distribution Company	291	144
Technical education industrial dual (3 years System) Mubarak- Cole previously	• Cairo Production Company • West Delta Production Company • East Delta Production Company	219	118
Technical education industrial the couple (5 years System)	Cairo Production Company	139	40
Total		649	302

In the framework of cooperation in the field of training with the Arab and African countries, training agreements have been concluded between the Egyptian Electricity Holding company and several foreign entities as follows: -

No.	Destination	Total of Trainees
1	**Palestine**	**17**
2	**Nile Basin countries**	**175**
3	**Sudan**	**1042**
4	**African countries**	**25**
The total		**1259**

- Expatriates in Egypt (from outside the electricity sector) have been trained as follows:
  - (44) trainees at EEHC.
  - (732) trainees at the headquarters of the affiliated companies.
  - The Association of Power Utilities of Africa (APUA) has been approached in request for evaluation of five Training Centers of the affiliated companies (3 production companies & 2 distribution companies) to include the best of them in the African Centers of Excellence ANCEE funded by a grant from the African Development Bank and the French Development Agency.

Fifth: Leadership Development Center of the electricity sector:

In the early detection of qualified elements for leadership and preparing the second generation, Leadership Development Center (LDC) was established in 1996 to achieve the following mission:

"Prepare a new generation of leaders who are capable through their knowledge, behaviors and experience to achieve the sector goals."

The achievements of the Center in the last period until the end of 2015/2016 were the following: -

- Training of several employees from (5) Ministries and entities outside the electricity sector after accreditation of the Center by the Central Agency for Organization and Management.
- Rehabilitation of Mokattam Training Institute affiliated to South Cairo Electricity Distribution Company which led to obtaining the ISO 9001 certification, and now rehabilitation of the Center of Technical Cadres of Canal Electricity Distribution Company is being implemented while coordinating with outsider companies to obtain the ISO certification.
- Rehabilitation of Abu Qir Training Center of West Delta Electricity Production Company is underway as well.
- Implementing the recommendations of the National Anti-Corruption Committee by training employees of the companies affiliated to the Electricity Sector by holding seminars and training sessions to raise the awareness of the principles of transparency and integrity.
- The total number of LDC courses amounted to (168) training courses for (2556) trainees for the fiscal year 2015/2016 compared to (134) training courses for (2006) trainees in 2014/2015.
- Graduation of Batch (21) of the Leadership Development Course comprising (27) trainees.

That brings the total number of graduates from Leadership Development Course to (551) trainees.

Sixth: Efforts made to face current challenges: -

A - Development of EEHC's regulations and organizational structures: -

In the framework of the desire of EEHC to keep up with all developments that occur on the work system and policies of human resources, some guidelines, regulations and procedures have been issued and amended for the creation of a stimulating work environment and these are represented in the following:-

- Taking the necessary procedures and arrangements for publishing the Code of Professional Conduct on the websites and putting it into practice at EEHC and its affiliated companies. The Code includes the policies, mechanisms, principles, norms and values relating to the control and organization of work to ensure high levels of professionalism.
- Introducing the General Department of Compliance and approving the action plan for the implementation of the Compliance and Reporting System at EEHC and its affiliated companies.
- Adopting and publishing the policy of reporting on violations and protection of the whistleblower which aims to provide a safe way for employees in case of reporting on illicit practices.
- The organizational and functional structure of EEHC and its affiliated companies are currently under consideration in order to streamline business processes and prevent duplication of functions between the organizational divisions and achieve integration between sub-activities that work in the same task.
- Using information technology in the management of internal activities and services, adopting electronic administration, and setting up a working group of the Human Resources Sector in conjunction with the Information Systems Sector to assess the transactions of the human resource sectors of EEHC and its affiliated companies.
- Adopting and publishing a list of best practices for safety and occupational health of employees to protect them from the dangers of work and occupational diseases.
- The modification of the rules and regulations of work at the company is underway to coincide with current business requirements and unify them all over the affiliated companies.
- Establishing Investors Service Department at all distribution companies as well as the EETC and incorporating it in the organizational structure of these companies to deal with investors by the one-window system to achieve customer satisfaction and realize competitive advantage for companies.

B- Adoption of the Financial & Administrative Restructuring, Governance and Capacity Building Project at EEHC and its affiliated companies:

The implementation of the financial and administrative restructuring, governance and capacity building project has started at EEHC and its affiliated companies in coordination with the World Bank and under supervision of the Ministry of Electricity and Renewable Energy. The Project aims to enhance competitiveness, prepare the electricity companies to the competitive market and attract investments through a framework that ensures transparency, efficiency and accountability in decision-making and the development of human capital and enable it to the institutional performance.

Positive steps have been taken by EEHC towards activation and commitment of the rules of governance as follows: -

- implementation of a series of workshops and training courses to disseminate the culture of governance and its advantages among the employees and high leadership in a special training program for the dissemination of the principles of transparency and integrity aiming to implement the recommendations of the National Anti-Corruption Committee.

- EEHC and its affiliated companies have established audit committees from among board members to activate the regulatory role of the board and achieve a great deal of transparency.
- Adoption and endorsement of many of the covenants and policies aiming to achieve and strengthen internal control and governance,
- In line with the disclosure and transparency policy, all job vacancies have been announced on the website of EEHC and the Ministry of Electricity and Renewable Energy.
- The integration of efforts of the board of directors of EEHC and its affiliated companies with all executive departments to comply with corporate governance standards which would enhance transparency and disclosure, and in this context, the websites of EEHC and its affiliated companies have been updated in line with international best practices of publicizing energy prices and how the customer can calculate his bill, etc.
- Promoting teamwork, activating communication between the various departments, raising the level of satisfaction of the employees and improving their productivity through the application of incentives and rewards system based on their actual performance.
- A plan to monitor the performance of the sectors of human resources in EEHC and its affiliated companies has been adopted to ensure compliance with all laws, regulations and decisions of the Holding Company in the field of human resources.
- A contract has been signed with the Egyptian Institute of Directors of the Public Authority for Financial Supervision for the implementation of a series of unique training courses in the field of internal audit and compliance for raising the level of personnel of control and audit departments at EEHC and its affiliated companies.
- The preparation and publication of the annual report on the company's website which clarifies the strategic objectives of EEHC and provides statistics of the Company's financial, technical, commercial performance and indicators that enable performance monitoring and evaluation continuously.

C- Committees emanating from the Board of Directors (Audit Committee):

In the context of activating governance and the regulatory role of the board of directors, the Audit Committee formed by the Chairman's Decree No. (136) dated 27/04/2016 has aided EEHC's Board in performing its work with respect to the oversight of financial reporting and internal control systems

The Audit Committee convened and discussed the annual plan of its work and began to take several positive steps, including: -

- Studying the organizational structure of EEHC and its affiliated companies and reviewing the job description cards to make sure not to have any overlap in the competencies of the various departments since the establishment of a good organizational structure is one of the most important elements of internal control.
- Studying the risks facing EEHC and its affiliated companies and developing appropriate systems to manage these risks and put the proposed ways to address them aiming to set up a strategy for risk management and assessment.
- Considering the work plan of the Compliance Officer.
- Reviewing the amendments to the financial regulations to cope with the current work requirements and unifying them all over the affiliated companies.
- Governance of information systems of EEHC and its affiliated companies in line with the adoption of the financial and managerial restructuring and governance Project.
- The internal control systems, documentary cycles and information circulation system at EEHC are currently under consideration and evaluation. Instructions have been issued to chairmen of the audit committees at the affiliated companies to review and evaluate the documentary cycles and the applied control systems at their respective companies to identify the points of strength and weakness.

Commercial Activities

Electricity Tariff Reform:

- The internationally recognized pricing policies aims to achieve the following:
    - Prices realize financial and economic efficiency of the electricity utility.
    - Prices cover cost according to supply voltage.
    - Prices reflect the right indicator of electricity use, taking into consideration the social dimension (i.e. affordable price to customer), with transparency, simplicity and equality.
- The Cabinet issued the decree no. (1257) on 17/7/2014 approving the study prepared by the Electric Utility and Consumer Protection Regulatory Agency (EGYPTERA) for the restructuring of the electricity tariff and gradual phase out of energy subsidies through a staged series of increases in the electricity tariff, thus to reach the real cost of generation, transmission and distribution of electricity through a five-year period starting 1/7/2014 up to 30/6/2019 in order to overcome the hardships and challenges facing the electricity companies and enable continuity of provided services without affecting their financial situation. Prices would be revised on annual basis in light of any major change in cost elements and assumptions used during study preparation.
- The study took into consideration the protection of low income families and the full compliance with the State policies in respect of energy conservation and directing subsidy to those who deserve it.

  However, some issues appeared before the start of the second year (2015/2016) of the approved tariff restructuring plan, mainly:
    - A great change in the cost elements upon which the study was based, foremost among which is the devaluation of the Egyptian Pound causing an increase in the price of natural gas delivered to the power sector, in addition to a change in the fuel mix ratio.
    - H.E. the President of the Republic gave instructions to exempt the first three categories of the residential sector from the approved tariff increase for the second year 2015/2016.
    - The demand charge has been kept unchanged at the 2014/2015 prices for the medium-voltage industrial customers to prevent the negative impact of the charge on their activities.

  These major changes have led to an increase in the expected deficit of 2015/2016 budget resulting in the increase of cost than selling price.
- To overcome this resulted situation and to alleviate the burden of the financial deficit, the Cabinet issued the decree no. 2259 in August 2015 with the modified electricity tariff to be effective for the fiscal year 2015/2016.
- Also, to get things facilitated for customers on ultra-high, high and medium voltages, a decision was taken by the board of the Regulatory Agency on 15/3/2016 to record the peak load used in calculating the demand charge every three months instead of once a year starting 1/1/2016.
- By virtue of the Presidential decree no. 87 for year 2015 issuing the electricity law (chapter one article 4.3) the Regulatory Agency is the body responsible for developing the sound economic rules and principles for the calculation of the selling electricity tariff to customers subject to approval by the Cabinet, and therefore the Regulatory Agency has been entrusted to review the approved tariff for the third year of the reform and price adjustment plan (2016/2017) and introduce any amendment that will be needed to achieve the balance between the financial situation of the electricity companies and their commitment towards continuity of electricity supply, in the meantime considering the social dimension and protect the low income families where the tariff has remained subsidized up to a consumption of 1000 KWh per month. The expected subsidy is to reach LE 28.9 Billion out of the total subsidy of LE 30 Billion for the year 2016/2017.
- On 8/8/2016 the decree of the Minister of Electricity number 436 for the year 2016 was issued regarding the amended tariff to be applied starting 1/7/2016 until 30/6/2017.

  The following table is illustrating the electricity tariff and the service charge for different purposes of consumption for the year 2016/2017:

Electircity Tariff 2016/2017

Purpose of using	Demand Charge (2) Pound/ KWh/m	Energy Average Price (4) Piaster/ KWh	Off Peak (3) Piaster/ KWh	On Peak (3) Piaster/ KWh	Customer Service Charge Pound/cons/m
Extra High Voltage (220,132) KV					
Kima	-	-	9.4		30
Metro- Ramsis	-	-	30		
Intensive industries (1)	25	46.5	42.9	64.4	
Other Consumers	25	41.9	38.7	58.1	
High Voltage (66,33) KV					
Metro- Ramsis	-	-	32		30
Heavy industries (1)	35	49	45.2	67.8	
Other Consumers	35	44.6	41.1	61.7	
Medium Voltage(22,11) KV					
all Consumers	45	52	48	72	30
Low Voltage(380 V)					
Irrigation	-	-	27.1		4
Other Consumers	-	-	64.4		8
Public Lighting	-	-	75		

Residential

Sliced consumption (KWh/m)	P/KWh	customer service Charge Pound/cons/m
0-50	11	1
51-100	19	2
0-200	21.5	6
201-350	42	8
351-650	55	8
651-1000	95	20
From Zero to More than 1000	95	20
Zero Read	-	6

Commercial

Sliced consumption (KWh/m)	P/KWh	customer service Charge Pound/cons/m
0-100	35	5
0-600	69	15
601-1000	96	25
From Zero to More than 1000	96	25
Zero Read	-	6

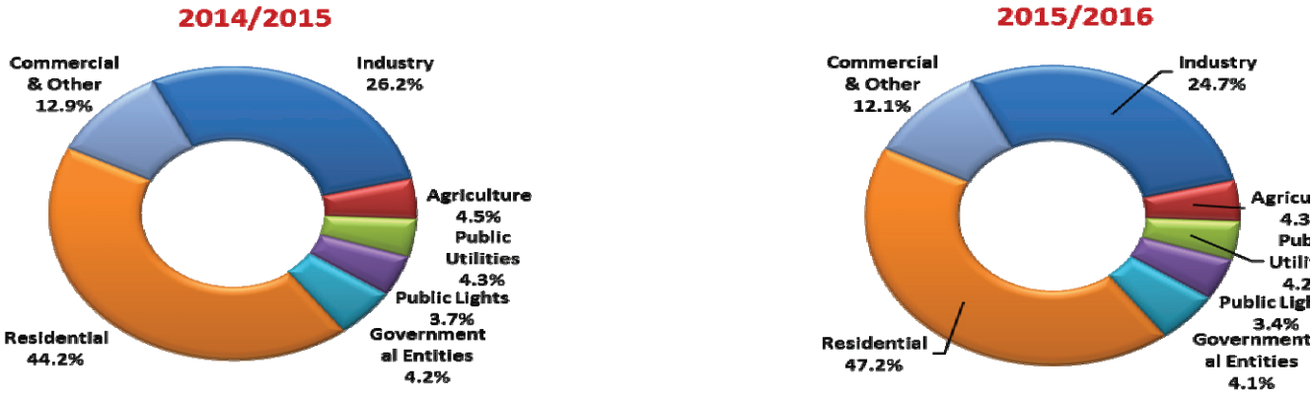
The prices set on Cap. Factor 0.92

1. Energy-intensive industries: iron-cement- fertilizers - aluminum-petrochemicals in addition to somid company.
2. The demand charge is applied based on the maximum demand every 3 monthes.
3. The ToU tariff is applied in case smart meters are installed and the peak hours duration is 4 hours to be defined by the Ministry of Electricity and Renewable Energy.
4. In case there are no smart meters, the applied tariff is the average energy price.

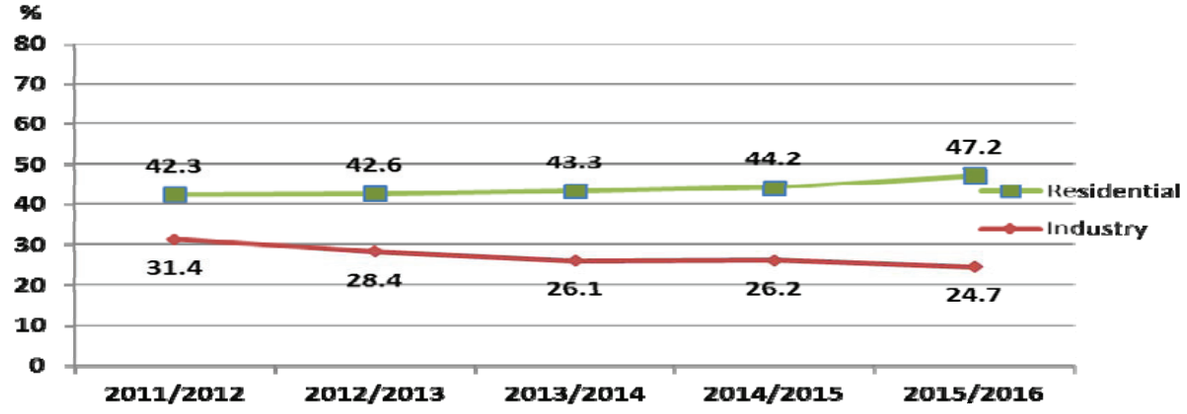
Total Sold Energy by Purpose (GWh) (on all voltages)

Type of Usage	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
Industries	42098	39887	37320	38242	38310
Agriculture	5560	6230	6310	6555	6755
Utilities	6010	5904	5962	6338	6519
Public lighting	6537	6210	5692	5353	5293
Governmental Entities	6385	7664	8297	6062	6292
Residential	56664	59757	61962	64546	73361
Commerical and other	10715	14605	17392	18851	18788
total	**133969**	**140257**	**142935**	**145947**	**155318**
Interconnection& * BOOTs	**1869**	**661**	**650**	**959**	**982**
Grand total	**135838**	**140918**	**143585**	**146906**	**156300**

* including the tangible exchange.



The considerable growth in household loads in comparison with industry and other purposes was due to the expansion of residential compounds and new communities in addition to the wide spread use of domestic appliances especially the air conditioners



The average growth rate of sold energy for the industrial purposes decreased at a rate of 5.8% yearly for the period from 2011/2012 till 2015/2016, While The average growth rate of sold energy for the Residential purposes increased at a rate of 2.8% yearly for the period from 2011/2012 till 2015/2016.

Related Websites

The Ministry of Electricity and Renewable Energy	http://www.moee.gov.eg/
the Egyptian Electricity Holding Company	http://www.eehc.gov.eg/
the Egyptian Electricity Transmission Company	http://www.eetc.net.eg/
Cairo Electricity Production Company	http://www.cairoepc.com/
East Delta Electricity Production Company.	http://www.edepco.com.eg/
Middle Delta Electricity Production Company.	http://www.mdepc.gov.eg
Upper Egypt Electricity Production Company.	http://www.ueepc.com/
Hydro- Power Plants Electricity Production Company	http://www.hpgc.com.eg
North Cairo Electricity Distribution Company	http://www.ncedc.gov.eg/
South Cairo Electricity Distribution Company	http://www.scedc.com.eg/
Canal Electricity Distribution Company	http://www.cced.gov.eg/
North Delta Electricity Distribution Company	http://www.ndedco.org/
South Delta Electricity Distribution Company	http://www.sdedc.net
El-Behera Electricity Distribution Company	http://www.bedc.gov.eg/
Middle Egypt Electricity Distribution Company	http://www.meedco.gov.eg/
Hydro Power Plants Executive Authority	http://www.hppea.gov.eg/
New and Renewable Energy Authority	http://www.nrea.gov.eg/
Egyptian Electric Utility and Consumer Protection Regulatory Agency	http://www.egyptera.org/