



**Arab Republic of Egypt
Ministry of Electricity and Energy**

Egyptian Electricity Holding Company

**Annual Report
2009/2010**



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Organizational structure

Minister of Electricity and Energy
Chairman of General Assembly for
Egyptian Electricity Holding Company
Dr. Hassan A. Younes

Chairman of Board of Directors
Chairman of General Assembly for Affiliated Companies
Dr. Mohamed M. Awad
EEHC Board Member for Production, Transmission &
Distribution companies Affairs
Eng: Fawzia Abou Nema
EEHC Board Member for Planning, Research &
Electric service Companies Affairs
Dr. Kamel Yassin
EEHC Board Member for Financial & Administration Affairs
Acc: Salah Eiden Awad Mansour

Production Companies

Cairo
Eng. Ahmed Mostafa Emam.

East Delta
Eng. Mahmoud Saad Balbaa

Middle Delta
Eng. Awad Mohamed Fathy Soliman

West Delta
Eng. Mahmoud Soliman Balbaa

Upper Egypt
Eng. Abd El Mohsen Abd El Ghafar

Hydro Plants
Eng. Mohamed Mohamed Farag Allah

Egyptian Electricity Transmission Co.
Eng. Fathalla Mohamed Shalaby

Distribution Companies

North Cairo
Eng. Mohamed Hussein Ashour

South Cairo
Eng. Mahmoud Samy Sultán

Alexandria
Eng. Ibrahim Khalil Madi

North Delta
Eng. Mohamed Aly Bakr

South Delta
Eng. Hassan Mokhtar Oraby

Canal
Eng. Mamdouh Mohamed EINahas

El- Behera
Eng. Awad Mansour Mobarik

Middle Egypt
Eng. Abd El Sattar Abo Rass

Upper Egypt
Eng. Mohamed ElBakry Helal



Introduction

- Since 1980 Egypt has achieved fast successive developments on the national level that covered several areas of economic, social and cultural developments. Since the electricity sector is the main driver of all development plans, its expansion plans follow the national development plans.
- The Egyptian Electricity Holding Company (EEHC) mission towards the society is to provide continuous and safe supply of electricity to all types of consumers on economic bases and according to international performance standards taking into consideration all the environmental, social and economic determinants. The EEHC always does its best endeavors to develop the financial, technical and human resources capabilities of its affiliated companies and set the mechanisms to achieve its mission according to international best practices of similar international companies to ensure high quality of services for the satisfaction of its customers.
- It was a challenge for The EEHC to meet the continuous high growth rate of electricity demand during the period from 1980/1981-2009/2010; the peak demand increased from 3306 MW in 1980/1981 and reached 22750 MW in 2009/2010 and energy generated from 20 TWh to 139 TWh in the same period. To meet this challenge The EEHC continuously add annual achievements in the form of construction of power plants, transmission and distribution networks and the renovation, rehabilitation and upgrading of the existing electricity system. Also the interconnection projects with neighboring countries and providing services to Arab countries through the establishment of joint electricity consulting and projects companies.



- One of The EEHC major activities is future planning to meet the forecasted growth rate of demand by optimizing the use of all available energy resources, high accuracy level of demand forecast using long period of historical data and the most up to date international software models for generation, transmission and distribution planning.
- The EEHC is now Executing the sixth, five year plan which includes the addition of a generation capacity of 7000 MW(after cancelling Nweibaa750 MW project) to meet the expected increase in demand during the period (2007/2008-2011/2012) in addition to executing a fast track program by adding 1500 MW of gas turbines to meet the expected high demand of summer 2011 and 1000 MW of gas turbines to meet the summer demand of 2012.
- The EEHC also prepared the seventh, five year plan (2012/2013-2016/2017) which includes execution of 12400 MW of generation capacity from which 11100 MW will be commissioned during the plan years and 1300MW to be commissioned during 2017/2018.
- The plan also includes expansion of transmission and distribution networks to evacuate the generated power, transmit, distribute and supply the large increase in the number of customers.
- The EEHC in cooperation with other electricity sector authorities produce electricity from diversified sources of conventional and renewable energy.
- This led to 99% of the total population have access to electricity and increase the consumption per capita during the Period 1980/1981 - 2009/2010 from 430kWh to 1790kWh in spite of high population increase rate which resulted in high increase of number of customers from million 4.5 in the early eighties to million 25.7 customers in 2009/2010.
- The EEHC cooperates and coordinates with all local Egyptian firms and entities, In order to maximize the local contribution in different planned electricity projects. The local manufacturing reached 100% of distribution networks and transmission networks components up to 66kV, 80% from 220kV transmission components and 42% from power plants components.
- In order to acquire, benefit and transfer latest and diversified international experience to its dear customers, EEHC cooperates with international companies and firms and participate in international conferences, workshops and seminars.
- The EEHC is doing its best endeavors to fulfill its mission to provide high quality electricity supply services to all consumers. Due to unexpected high weather temperatures during summer and the excessive use of air conditioning equipments, drastic increase in electricity consumption occurred.and in order that EEHC continue to provide high quality services, and to optimize the huge investments required for new expansions, cooperation and care between customers on the national level to conserve and efficiently use electricity became a must.
- Acknowledging the importance of data documentation, the Egyptian Electricity Holding Company issues this annual report to document its activities and achievements over the Fiscal Year 2009/2010 to be as a reference to those who are interested in the field of electrical energy.



Electricity for 2009/2010

Description		2008/2009	2009/2010	Variance%
Peak load	MW	21330	22750	6.7
Total power generated	GWh	131040	139000	6.1
Hydro	GWh	14682	12863	(12.4)
Thermal ⁽¹⁾	GWh	101898	111576	9.5
Wind (Zafarana) ⁽²⁾	GWh	931	1133	21.7
Energy Purchased from IPP's ⁽³⁾	GWh	17	26	52.9
Private Sector (BOOTs)	GWh	13241	13184	(0.4)
Isolated Plants	GWh	271	218	(19.6)
Net Energy Exchange with interconnected countries	GWh	896	934	4.4
Sent Energy from Production Companies	GWh	112847	120676	6.9
Total fuel consumption	K toe	24895	26772	7.5
● Production companies	K toe	22179	24052	8.4
H.F.O	K toe	5215	5600	7.4
N.G	K toe	16838	18270	8.5
L.F.O	K toe	126	182	44.4
● Private sector BOOTs	K toe	2716	2720	0.1
Average Production Companies fuel Consumption rate	gm/Kwh gen	217.6	215.6	(0.9)
Fuel Consumption Rate including BOOTs	gm/kwh gen	216.1	214.6	(0.7)
Thermal efficiency (Without private sector BOOTs) %		40	40.4	1
N.G Ratio to Total Fuel Including BOOTs	%	78	77.3	(0.9)
N.G Ratio for Power Plants Connected to Gas Grid Including BOOTs	%	82.1	80.5	(1.9)
Total Installed Capacity⁽⁴⁾	MW	23502	24726	5.2
Hydro	MW	2800	2800	0.0
Thermal	MW	18230	19388	6.4
Wind	MW	425	490	15.3
Private Sector BOOTs (Thermal)	MW	2047	2047	0.0
Total transmission lines and cables	km	41016	41815	1.9
Total transmission transformers capacities	MVA	78916	83491	5.8
Total length of distribution MV&LV lines & cables	km	382041	390276	2.2
Total capacity for distribution transformers	MV&LV MVA	53664	56584	5.4
Total no. of customers in distribution companies	Million	24.7	25.7	4

(1) Includes commissioning tests

(2) Connected to National Grid

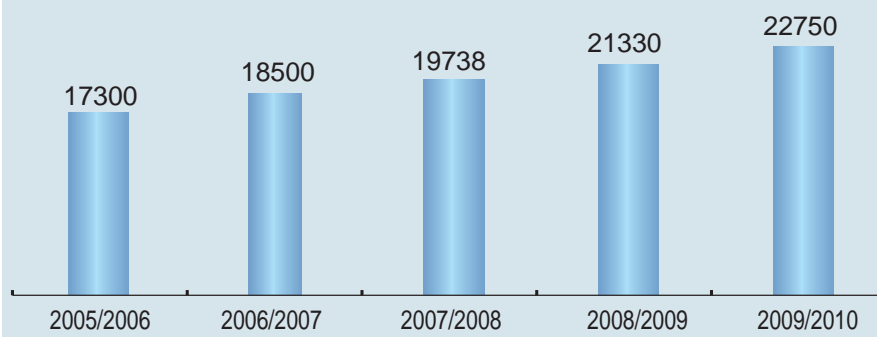
(3) Power purchased from industrial plants self generation (IPPs) year 2009/2010 as follows: Petrochemical (17.5 GWh), Carbon Black (3.8 GWh), Medallek Ghazi El-mahaala and Talkha Fertilizer (4.7 GWh).

(4) There is Isolated Plants with total capacity of 250 MW.

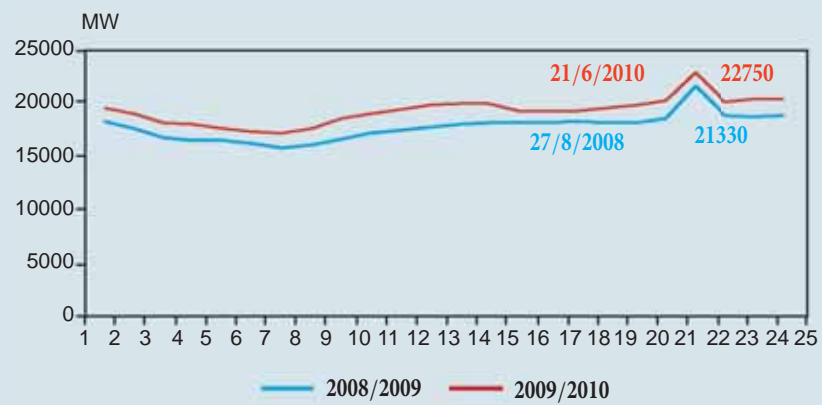
Load Development



Yearly Peak Load Development (MW)



Peak load curve 2008/2009-2009/2010





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 annexed power plants.
2. Management, operation, maintenance, rehabilitation and overhauling of the annexed power plants in accordance with international best practices.
3. Rehabilitation , overhauling, maintenance and loading of the annexed 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.
4. 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).
5. Implementing power plant projects upon the approval of EEHC's Board of Directors, and in accordance with the planned time schedules.
6. Conducting researches and studies within the company's activities..
7. Carrying out any activities or works related to the company's objectives, in addition to any other work to be entrusted thereto by EEHC.
8. Carrying out any work entrusted thereto by third parties as long as it is within the company's scope of work and realizes economic benefit to the company

Information about Production Companies

Company	Geographical zone	Headquarter	No of Shares	Equity Capital million EGP	Address	Telephone
Cairo	Great Cairo, 6 October Governorates and El-Tbeen, Helwan neighborhoods of Helwan Governorate	Cairo	5518350	551.835	22 Shanan St. Sabteia	02/25793054 02/25740550
East Delta	Domeat, Ismailia, Port Said, Suez, South Sinai, North Sinai & Red Sea Governorates	Ismailia	5328300	532.830	Sheben Elkom St. Ismailia Governorate	064/3201402 064/3205146
Middle Delta	Kalyobeya (Except for Great Cairo extension) Mohmoudia city, kom Hamada from El-Behera, Dakahlya Governorates	Dakahlya	5071950	507.195	Electricity & Compost road Talkha.	050/2524149 045/3473804
West Delta	Alexandria, Matrouh & El Behera Governorates (Except for Mahmoudia city & kom Hamada)	Alexandria	5019450	501.945	7 Riad St., Glym	03/5761375 03/5744147
Upper Egypt	Giza (Except for extension of Great Cairo), Elsaf and Atfih neighborhoods of helwan, Fayoum, Beni-Suef, El-Minia, Assiut, New Valley, Sohag, Qena & Aswan Governorates	El-Giza	7504100	750.410	El Kuriemat Atfih	088/2323550 088/2314421
Hydro Power Plants	Affiliated Hydro Plants All Over the Country	Aswan	3916600	391.660	Sahara	097/3480412 097/3481974



Thermal Power Plant Projects

The five year plan is set to ensure the availability of electric power to all electricity users upon demand based on the following:

1. The expected annual growth rate of demand.
2. Adequate reserve to meet programmed outages, forced outages and derating of existing generation units.
3. Diversification of plant technologies (steam, combined cycle , gas turbines and renewable)



First: The sixth five year plan (2007-2012):

The sixth five year plan (2007-2012) includes implementation of 7750 MW thermal power projects as follows:

- 3750 MW combined cycle
- 4000 MW steam units from which 1950 MW at Abu Kir and El Sokhna sites will be commissioned during the years 2012/2013 & 2013/2014.

Due to the unexpected high weather temperatures during summer and the excessive use of air conditioning equipments which resulted in drastic increase in electricity consumption , the delay in Abu Kir and El Sokhna projects to years 2012,2013 and the cancelling of Newibaa project ,a Fast Track Programme was started to add 1500 MW of generation capacity before the summer of 2011. (four Gas Turbine units with total capacity of 500 MW at Damietta and eight units with total capacity of 1000 MW at EL Shabab).

The fast track program also includes another 1000 MW gas turbines to be commissioned before the end of summer 2012 (500 MW in each site).

Second: the seventh five year plan (2012-2017) :

The seventh five year plan includes implementation of 12400MW thermal power projects as follows:

- 5250 MW combined cycle at North Giza (1,2,3) , Banha and Dairout sites.
- 7150MW steam units at El Suez , South Helwan , Kena ,Safaga and El Aiat sites.





- The total investments of the fifth and sixth five year plans exceeded EGP fifty one billion and the investments needed for the seventh five year plan is estimated to be about one hundred billion.
- The EEHC prepared the financing plan for the seventh five year plan including public /private finance of generation projects which the EEHC and it's affiliated companies raise financing from multilateral and bilateral and local banks for projects with total value of about EGP forty two billion and the private sector raise financing for the rest of the projects.
- During the seventh five year plan ,the private sector will be invited to build own and operate(BOO) four giant conventional power plants with total installed capacity of 6150MW
- Private sector already invited to build own and operate (BOO) combined cycle power plant with installed capacity of 3 *750 MW at Dirout site . and the plant is scheduled to be commissioned by 2013.

SCHEMES FOR PRIVATE SECTOR PARTICIPATION IN POWER GENERATION PROJECTS :

- The electricity sector in Egypt had successfully implemented three private thermal power plants, Sidi Krir 3&4, Suez Gulf and Port Said East ,which was launched a decade ago under BOOT scheme and operating efficiently since year 2002.
- As introduction towards the liberalisation of Egypt's electricity power sector, two schemes are opted for private sector participation in power generation projects as follows:
 - 1) The private sector will build own and operate the power plant as Independent Power Producer (IPP)and sells it's power generation to his direct customers based on bilateral agreement between the two parties . The Egyptian Electricity Transmission Company (EETC) will provide third party access to transmit the power generated from the IPP project to the customers. In this case the IPP developer is responsible for obtaining the site and the fuel supply to the power plant. The IPP developer also will sign a connection and use of network agreements with the EETC.The use of network charges will be set by the EETC on the recovery of network costs basis (Revenue Requirement) and will be approved by the board of Egypt Electricity Regulatory Agency (ERA) and announced on both the EETC and the ERA websites.
 - 2) The private developer will be selected through competitive bidding to build own and operate the power plant on predetermined site allocated by the electricity sector and sells all power produced to the EETC during a defined term at lowest price. The developer will sign a Usufruct (use of land) , Power Purchase Agreements with the EETC and Fuel Supply Agreement (FSA) with the petroleum sector companies.



General Power Stations Statistics (30/6/2010)

Comp.	Station	No. of Units	Installed Capac. (MW)	Fuel	Commissioning Date
Cairo	Shoubra El-Kheima (St)	4 x 315	1260	N.G-H.F.O	84-85-1988
	Cairo West (St)	4 x 87.5	350	N.G-H.F.O	66-1979
	Cairo West Ext. (St)	2 x 330	660	N.G-H.F.O	1995
	Cairo South 1 (CC)	3 x 110 + 3 x 60	510	N.G-H.F.O	57-65-1989
	Cairo South II (CC)	1 x 165	165	N.G	1995
	Cairo North (CC)	4x 250 + 2 x 250	1500	N.G-L.F.O	2005-2006-2008
	Wadi Hof (G)	3 x 33.3	100	N.G-L.F.O	1985
East Delta	Damietta (CC)	6 x 132 + 3 x 136	1200	N.G-L.F.O	89-1993
	Ataka (St)	2 x 150 + 2 x 300	900	N.G-H.F.O	85-86-1987
	Abu Sultan (St)	4 x 150	600	N.G-H.F.O	83-84-1986
	Shabab (G)	3 x 33.5	100.5	N.G-L.F.O	1982
	Port Said (G)	2 x 23.96 + 1 x 24.6	73	N.G-L.F.O	77-1984
	Arish (St)	2 x 33	66	H.F.O	2000
	Oyoun Mousa (St)	2 x 320	640	N.G-H.F.O	2000
	Sharm El-Sheikh (G)	2 x 23.7 + 4 x 24.27 + 4 x 5.8 + 2 x 5	178	L.F.O	--
	Hurghada (G)	3 x 23.5 + 3 x 24.3	143	L.F.O	--
	Zafarana (wind) (W)	105 x 0.6 + 117 x 0.66 + 412x 0.85	490	Wind	2000-2003-2004-2006-2007-2008-2009
	BOOT				
	Suez Gulf (St)	2 x 341.25	682.5	N.G-H.F.O	2002
	Port Said East (St)	2 x 341.25	682.5	N.G-H.F.O	2003
Middle Delta	Talkha (CC)	8 x 24.72 + 2 x 45.95	290	N.G-L.F.O	79-80-1989
	Talkha 750 (CC)	2 x 250 + 1 x 250	750	N.G-L.F.O	2006-2008
	Talkha 210 (St)	2 x 210	420	N.G-H.F.O	93-1995
	Nubaria 1,2 (CC)	4 x 250 + 2 x 250	1500	N.G-L.F.O	2005-2006
	Nubaria 3* (CC)	2 x 250 + 1 x 250	500	N.G-L.F.O	2009
	El-ATF * (CC)	2 x 250 + 1 x 250	500	N.G-L.F.O	2009
	Mahmoudia ² (G)	1 x 50 + 1 x 25	-	N.G-L.F.O	81-1982
Mahmoudia (CC)	8 x 25 + 2 x 58.7	317	N.G-L.F.O	83-1995	
West Delta	Kafr El-Dawar (St)	4 x 110	440	N.G-H.F.O	80-84-1986
	Damanhour Ext (St)	1 x 300	300	N.G-H.F.O	1991
	Damanhour (Old) (St)	3 x 65	195	N.G-H.F.O	68-1969
	Damanhour (CC)	4 x 24.62 + 1 x 58	156.5	N.G-L.F.O	1985-1995
	El-Seiuf (G)	6 x 33.3	200	N.G-L.F.O	81-82-83-1984
	Karmouz (G)	1 x 11.37 + 1 x 11.68	23.1	L.F.O	1980
	Abu Kir (St)	4 x 150 + 1 x 311	911	N.G-H.F.O	83-84-1991
	Abu Kir (G)	1 x 24.27	24.3	N.G-L.F.O	1983
	Sidi Krir 1.2 (St)	2 x 320	640	N.G-H.F.O	99-2000
	Sidi Krir* (CC)	2 x 250 + 1 x 250	500	N.G-H.F.O	2009
	Matrouh (st)	2 x 30	60	N.G-H.F.O	1990
Sidi Krir 3,4 (Boot) (St)	2 x 341.25	682.5	N.G-H.F.O	2002	
Upper Egypt	Walidia (St)	2 x 312	624	H.F.O	92-1997
	Kuriemat (St)	2 x 627	1254	N.G-H.F.O	98-1999
	Kuriemat 2 (cc)	2x250+1x250	750	N.G-L.F.O	2007,2009
	Kuriemat 3* (cc)	2x250+1x250	500	N.G-H.F.O	2009
	Assiut (St)	3 x 30	90	H.F.O	66-1967
Hydro Plants	High Dam (H)	12 x 175	2100	Hydro	1967
	Aswan Dam I (H)	7 x 46	280	Hydro	1960
	Aswan Dam II (H)	4 x 67.5	270	Hydro	85-1986
	Esna (H)	6 x 14.28	86	Hydro	1993
	New Naga Hamadi (H)	4 x 16	64	Hydro	2008

* The steam part has not been commissioned yet.

(2) El-Mahmoudia Gas unit 50 Mw has been decommissioned in 17 / 11 / 2009.

(*) Two Gas Turbine units in Sidi krir C.C.(2 * 250 Mw) was commissioned in 27 / 8, 2 / 9 / 2009.

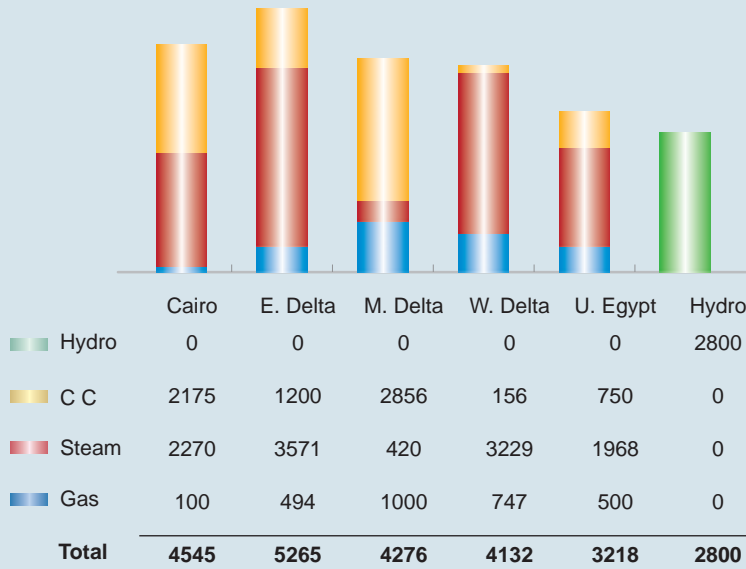
(**) Two Gas Turbine units in EL-ATF CC (2 * 250) Mw was commissioned in 30 / 8, 6 / 9 / 2009.

(****) There are Isolated units with total Capacity of 250 Mw.

Development of Installed Capacities*

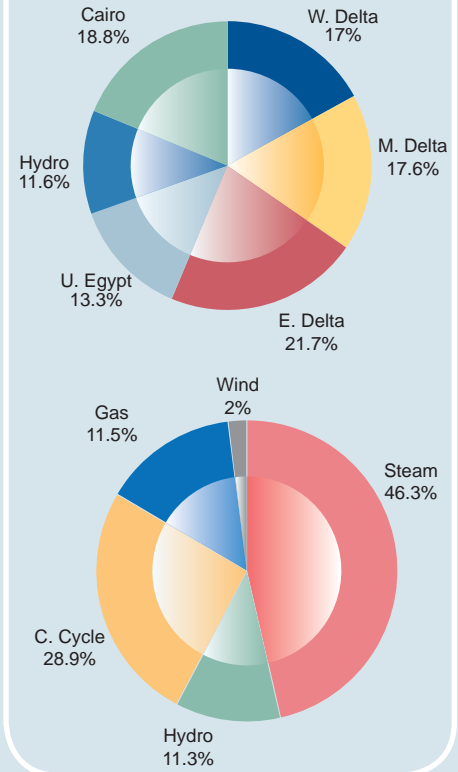
The total installed capacity reached 24726 MW in 30/6/2010, with an increase of 5.2% compared to the previous year.

Installed Capacity by Type (MW*)

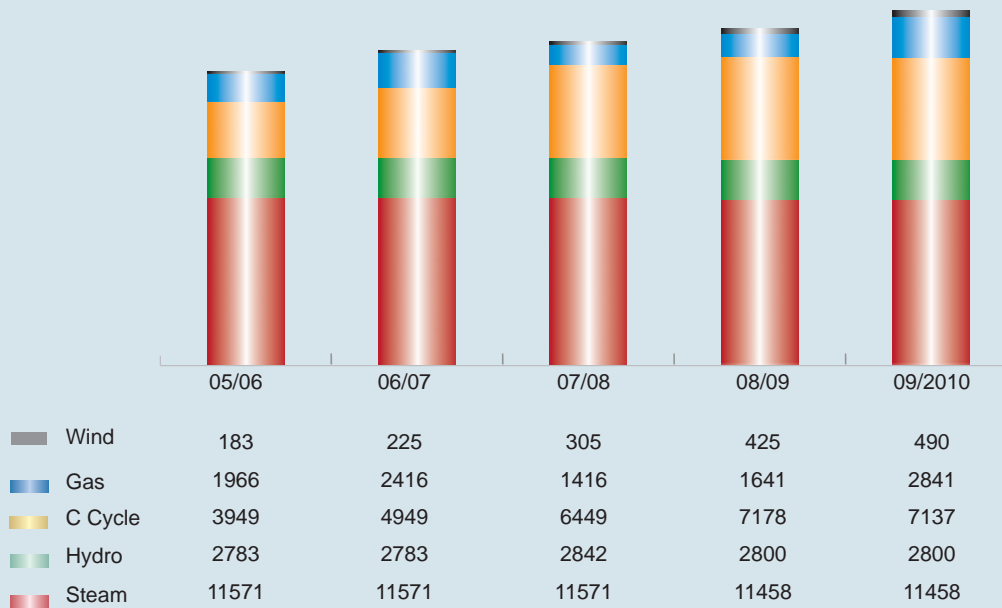


* Without Wind Farm (490 MW)
* Privat sector units has been added to the respective company

Installed Capacity %



Installed Capacity Development by type of Generation (MW)



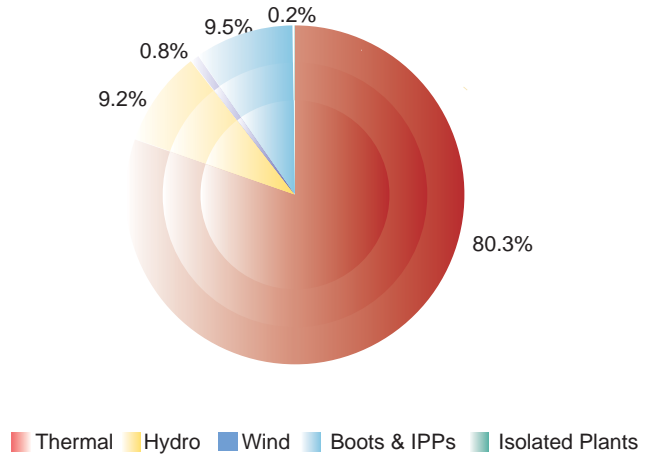
* There is isolated plants with total Capacity of 250 MW.



It is noteworthy that the available Capacity of the Hydropower plants is not equal to the installed capacities throughout the year. The reason is that the available capacity of the hydropower plants of the High Dam, Aswan Dam (I & II) and Esna decrease during the period of minimum irrigation discharge, besides the negative impact of the high temperature in summer and the derating of some units

Energy Generated and Purchased (Gwh) by Type and Technology

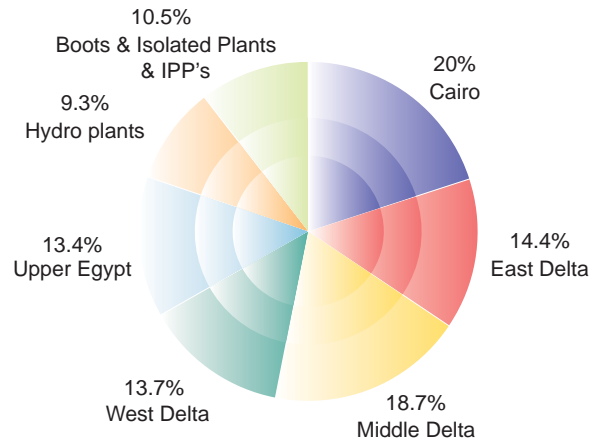
Item	2008/2009	2009/2010	Variance %
Production Companies			
Steam	56165	53520	(4.7)
Gas	2767	11429	313
Comb. Cycle	42966	46627	8.5
Total Thermal*	101898	111576	9.5
Hydro	14682	12863	(12.4)
Total Production Companies	117511	125572	6.9
Wind (Zafrana)	931	1133	21.7
Isolated Plants (th)	271	218	(19.6)
Purchased from (IPP's) (th)	17	26	53
BOOTs (th)	13241	13184	(0.4)
Grand Total	131040	139000	6.1



* Energy produced includes commissioning tests

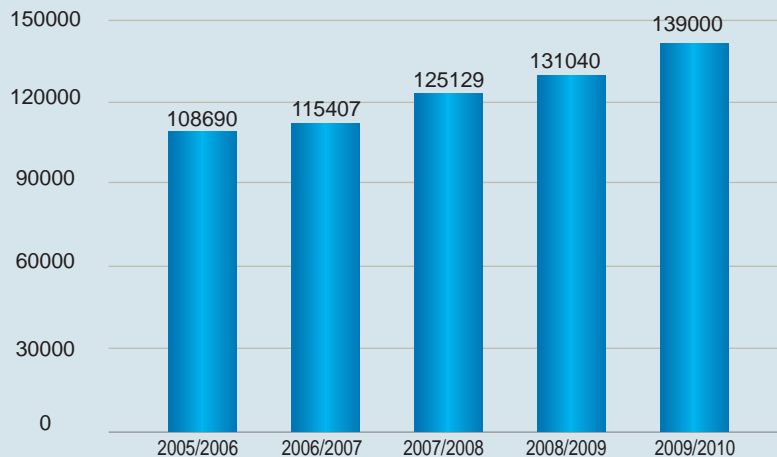
By Production Company

Company	Generated Energy GWH
Cairo	27862
East Delta	19997
Middle Delta	25969
West Delta	19085
Upper Egypt	18663
Hydro plants	12863
Total Production Comp.	124439
Generated from BOOTs, Wind, Isolated Plants & Purchased from (IPP's)	14561
Total	139000



* Energy produced includes commissioning tests

Generated Energy Development GWH



* Energy produced includes commissioning tests



Performance Statistics for Power Plants

Comp.	Station	Gross Gen. GWh	Net Gen GWh	Net/Gross %	Fuel Cons. Rate gm/ kWh	Peak Load MW	Load Factor %	Cap. Factor %	Eff. %	Avail Factor %
Cairo	Shoubra El-Kheima	7581.476	7184.327	94.7	234.2	1260	69	67	37.1	85
	Cairo West	1889.084	1787.441	94.6	272.9	260	83	88	31.8	92
	Cairo West Ext.	4184.319	4032.380	96.3	222.6	660	72	72	39.1	94.5
	Tebbin	170	160	-	-	-	-	-	32.9	-
	Wadi Hof	155.719	154.070	98.9	400.3	79	23	24	21.5	97
	Cairo South 1	3320.926	3269.704	98.4	218.8	459	83	84	39.7	93
	Cairo South II	1015.305	1003.270	98.4	201.2	159	73	77	43.2	82
Cairo North**	9544.779	9346.249	97.9	165.2	1557	70	73	52.6	90	
East Delta	Ataka	3762.466	3523.144	93.6	249.0	695	62	48	35.1	77.3
	Abu Sultan	2783.267	2554.616	91.8	262.2	545	58	53	33.3	77
	Arish	545.806	513.473	94	242	66	94	94	36.2	92
	Oyoun Mousa	4604.776	4439.794	96.4	215.3	650	81	82	40.7	93
	Shabab	177.998	176.535	99.2	360.3	88	23	22	24.3	91
	Port Said	77.372	76.970	99.5	382.8	45	20	14	22.9	84
	Damietta	7798.245	7625.913	97.8	195	1055	84	76	45	93
	Sharm El-Sheikh	100	96	96	421.1	-	-	-	-	-
El-Huragha	148	146	99	427.6	-	-	-	-	-	
Middle Delta	Talkha steam (210)	2554.614	2379.392	93	247.6	405	72	69	35.3	90
	Mahmoudia gas	1.880	1.858	98.8	385.0	8	3	2	16.5	82.5
	Talkha	2056.198	2026.070	98.5	230.1	272	86	87	38.1	97.7
	Talkha (750)**	4420	4347	98.3	177.3	777	65	67	49.5	87
	Nubaria**	11685.405	11514.858	98.5	181.2	1985	67	67	48.4	92
	Mahmoudia	2209.604	2185.236	98.9	212.5	304	83	85	40.4	97
EL-Atf**	3040	2991	98.3	212.5	784	44	69	36	89.9	
West Delta	Kafr El-Dawar	2540.259	2326.726	91	283.7	430	67	66	30.8	84
	Damanhour Ext.	1823.715	1778.639	97.5	244.3	274	76	69	35.8	91.4
	Damanhour Steam	1049.154	977.174	93.1	291.5	180	67	67	29.7	90
	Abu Kir 300	4431.201	4166.071	94	247.8	270	68	57	37.6	79
	Abu Kir 150	0.696	0.696	100	506.3	555	58	54	33.8	79
	Sidi Krir 1.2	4527.316	4367.099	96.5	210.2	667	77	81	41.6	98
	Matrouh	350.59	323.6	92	311.2	60	67	67	28.2	98.8
	El-Seiuf gas	197.193	192.836	97.8	414.9	134	17	16	21.1	94
	Karmouz	10.604	10.363	98	397.2	18	7	7	21.9	98
	Damanhour	1014.493	1002.215	98.7	243.1	150	77	75	36.1	88.3
Sidi Krir	3140.021	3080.265	98	238.7	530	68	72	36.7	98	
Upper Egypt	Walidia	2712.69	2601.73	95.9	235.6	550	56	52	37.2	72.3
	Assiut	452.00	410.88	90.7	305.0	66	78	86	28.7	83.4
	Kuriemat Steam	7555.75	7345.53	97.2	213.2	1295	67	69	41.2	79
	Kuriemat 2	5116.87	5034.78	98.4	152.8	800	73	78	57.4	94.3
Kuriemat 3**	2824	2784	98.6	267.8	512	63	64	32.8	87.6	
Hydro Plants	High Dam	8820.807	8739.856	99	-	2270	44	48	87.7	82
	Aswan Dam I	1376.192	1354.842	98.5	-	264	60	56	82.6	96
	Aswan Dam II	1700.132	1690.290	99.4	-	270	72	72	89.6	93
	Esna	492.804	487.312	98.8	-	85	66	65	85.9	95.3
	Naga Hamadi	472.785	465.411	98.4	-	71	76	84	88.2	96.6
Total	Total-Hydro	12863	12738	99	-	2894	51	52		85.5
	Total-Thermal**	111576	107938	96.5	215.6	19140	66	68	40.4	
	Total-Wind	1133	1113	98	-	430	30	26		
	Purchased from IPP's	26	26	100	-	-	-	-		
	Private Sector BOOTs	13184	12428	94.3		-	-	69		
	Total	138782	134243	96.7		22750	69	72		85.4
	Total for isolated Units	217.5	212							
Total Grand	139000	134455								

* The BOOTs, IPP's and Wind plants are dealt with on the basis of purchased energy.

**The energy generated includes commissioning tests.

Development of Gross Generated Energy (GWh)

Comp.	Station		02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
Cairo	Shoubra El-Kheima (St)		7797	7433	8610	8099	7543	7395	8647	7581
	Cairo West (St)		1657	1765	1963	1918	1837	1828	1785	1889
	Cairo West Ext. (St)		3841	3684	3893	3941	3829	3092	2360	4184
	Cairo South 1 (cc)		3623	3696	3619	3753	3673	3456	3556	3321
	Cairo South 2 (cc)		1208	1282	904	1131	1177	1239	1239	1015
	Cairo North* (cc)		-	214	2635	4475	7325	8511	7625	9545
	Wadi Hof (G)		76	23	64	107	101	158	148	156
	Tebbin (old) (St)		257	121	202	-	-	-	-	-
	Tebbin (old) (G)		34	8	37	42	-	-	-	-
East Delta	Ataka (St)		4643	5079	4139	4455	3715	4543	4362	3762
	Abu Sultan (St)		2901	2947	3041	2110	2952	3264	2983	2783
	Shabab (G)		219	104	122	147	75	104	115	178
	Port Said (G)		59	22	53	69	25	51	62	77
	Arish (St)		443	471	555	533	534	521	545	546
	Oyoun Mousa (St)		3847	4159	4319	4192	4074	4402	4512	4605
	Damietta (cc)		8036	7026	7387	8137	7876	8377	7589	7798
	Sharm El-Sheikh (G)		65	65	84	74	59	115	117	100
	El-Huraghda (G)		40	29	50	66	41	121	127	148
Middle Delta	Talkha (G&cc)		1611	1647	1828	1834	1570	1743	1970	2056
	Talkha steam210 (St)		2212	2208	2678	2601	2187	2354	2436	2555
	Talkha 750 (cc)		-	-	-	-	2488	2823	3557	4420
	Nubaria 1, 2 (cc)		-	134	5203	5884	8022	9636	10356	10082
	Nubaria 3* (cc)		-	-	-	-	-	-	431	1604
	Mahmoudia (cc)		1858	1925	2049	2068	2046	1998	2194	2210
	Mohmoudia (G)		109	57	76	28	4	8	6	2
	El-Atf* (cc)		-	-	-	-	-	-	29	3040
West Delta	Kafr El-Dawar (St)		1584	1624	1696	2174	2383	2661	2875	2540
	DamanhourExt300 (St)		1823	1797	1468	1787	1797	1925	1829	1824
	Damanhour (St)		999	985	1054	982	982	1034	1148	1049
	Damanhour (cc)		921	1028	1112	1040	909	1059	1059	1014
	Abu Kir (St & G) (St)		3415	3695	4872	5026	4682	4743	5285	4432
	El-Seiuf (St)		440	361	409	296	278	125	-	-
	El-Seiuf (G)		67	37	97	91	36	94	148	197
	Karmouz (G)		1	0.06	4.3	5	1	6	6	11
	Sidi Krir (St)		3742	3872	3974	3548	3758	4166	4003	4527
	Sidi Krir* (cc)		-	-	-	-	-	-	25	3140
Upper Egypt	Matroh (St)		276	291	324	107	282	273	313	351
	Walidia (St)		3435	2563	2477	2253	2663	1898	3325	2713
	Kuriemat (St)		6335	7179	8077	8540	8041	8336	9235	7556
	Kuriemat 2 (cc)		-	-	-	-	1350	3202	3820	5117
	Kuriemat 3* (cc)		-	-	-	-	-	-	1543	2825
Total	Assiut (St)		525	543	549	531	542	556	523	452
	Total-Thermal		68208	67948	74560	81565	88862	95782	101898	111576
	Total-Hydro		12859	13019	12644	12644	12925	15510	14682	12863
	Total-Wind (Zafarana)		204	368	523	552	616	831	931	1133
	Sidi Krir 3&4 (St)		4469	4821	4749	4847	4574	4582	4908	4759
	Suez Gulf North West (St)		2637	4427	4301	4415	4061	4127	4204	4189
	Port Said East (St)		501	4253	4150	4309	3990	3933	4129	4236
	Total BOOT		7607	13501	13200	13571	12625	12642	13241	13184
	Purchased from IPP's		77	77.4	69	36	32	14	17	26
	Total		88955	94913	100996	108368	115060	124779	130752	138782
Private Sector (BOOT)	Isolated plant		239	270	303	322	347	350	271	218
	Grand total		89194	95183	101299	108690	115407	125129	131040	139000

Note: (St) Steam (G) Gas (CC) combined cycle (H) Hydro
* The generated energy includes commissioning tests.



Hydro Power

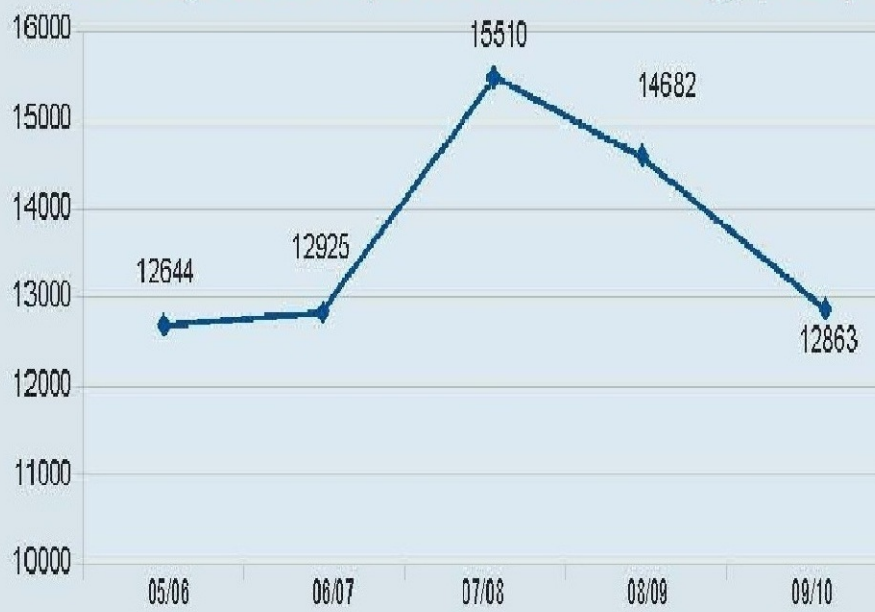
Generated Energy (GWh)

Plant	08/09	09/10	Variance %
High Dam	10292	8821	(14.3)
Aswan Dam 1	1575	1376	(12.6)
Aswan Dam 2	1797	1700	(5.4)
Esna	546	493	(9.7)
NewNaga Hamady	472	473	0.2
Total	14682	12863	(12.4)

Hydro power is considered one of the cheapest and cleanest sources of power generation. In Egypt, the power generation from hydro resources started in 1960, with the construction of Aswan Dam to control the Nile water discharge for irrigation. In 1967 the 2.1 GW High Dam hydro power plant was commissioned, followed by the commissioning of Aswan 2 power plant in 1985 and in cooperation with the Ministry of Water Resources and Public Works; Isna hydropower plant was commissioned in 1993 and Naga-Hamadi in year 2008. The share of hydro generation represents about 9.2% from total generation in 2009/2010.



Development of Hydro Generated Energy (GWh)





Hydro Power Plants projects

The Hydro Power Plants Execution Authority and The Egyptian Electricity Holding Company are coordinating in planning, preparation of feasibility studies and follow up the execution of the following hydro power plant projects:

Projects Completed

- In year 1985, Aswan 2 power plant started operation with installed capacity of 4*67.5 MW.
- In year 1991, EL-Ezab , Fayoum was rehabilitated consisting of two units with a total capacity of 680K.W.
- In year 1994, Isna Barrage power plant started operation with installed capacity of 6x14.5 MW.
- In year 2003, a mini-hydro power plant started operation at EL Lahoun, Fayoum with installed capacity of 2x400 KW.
- In year 2008, New Nag Hammadi hydro power plant started operation with installed capacity of 4x16 MW.



Projects Under Construction

Project	Statue	Installed capacity (MW)	Expected commissioning date
New Assuit Barrage Hydro Power Plant	<ul style="list-style-type: none"> ● The project is financed from KFW ● Short list selection of contractors for Turbines, Generators, Swichgear, Electricl and Hydrolic Equipments had been concluded. 	32	Year 2016

Fuel



- With the increase in the Egyptian reserve of N.G., policy has been adopted to replace liquid fuel (H.F.O & L.F.O) by N.G due to its distinction apparent in the economical and environmental aspects.
- Usage of N.G (Including BOOTs) in power plants connected to the gas grid reached (80.5%) in 2009/2010 representing (77.3 %) of total fuel consumption in the power plants.

Fuel Consumption by Type*

Item		08/09	09/10	Variance %
H.F.O	K tons	5321	5929	11.4
N.G	Million m ³	23013	24314	5.7
L.F.O	K tons	5.1	4.4	(13.7)
Special L.F.O	K tons	116	170.81	47.3
Total	K toe	24895	26772	7.5

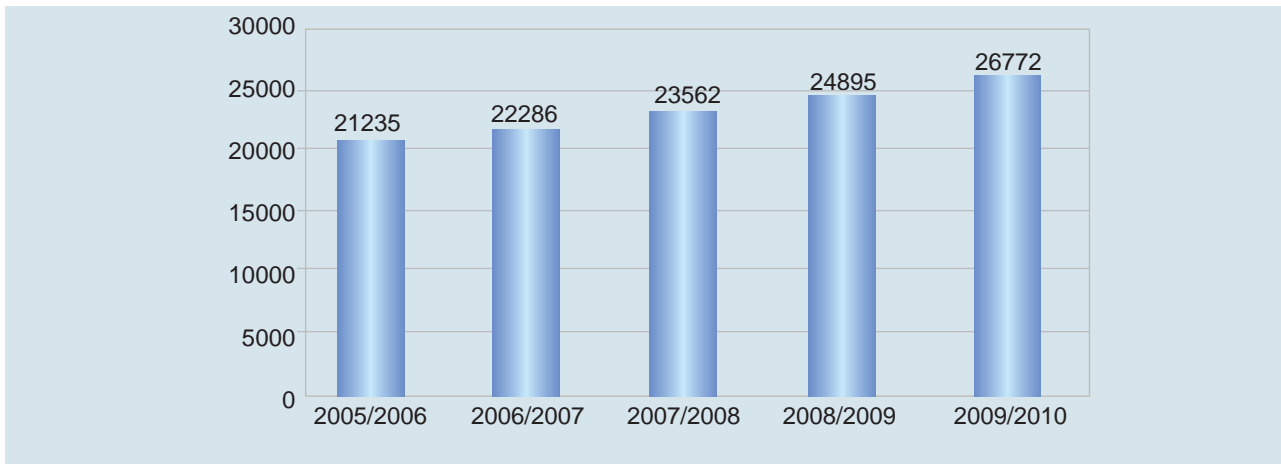
* Including Fuel for commissioning tests, BOOTs and without isolated units.

* The Consumed fuel in BOOT Plants reached 2837 million m³ N.G. in addition to 289 K ton oil and the total toe is 2720 thousands.



Electricity Production

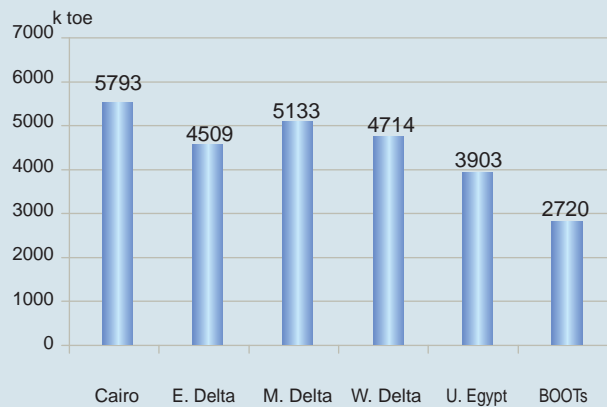
Fuel Consumption Development (K toe)



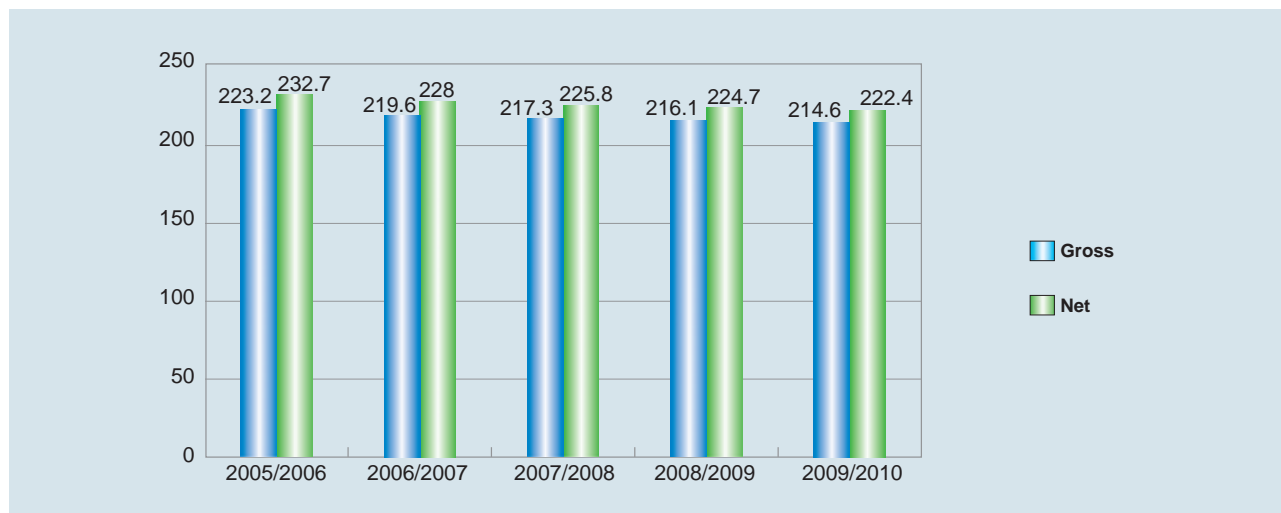
* Including fuel for commissioning tests , BOOTs and without isolated units.

Fuel Consumption

Company	N.G million m ³	Special L.F.O (K ton)	L.F.O (K ton)	H.F.O (K ton)	Total (K toe)
Cairo	5705	0.4	0.5	973	5793
East Delta	370.2	101.1	1.6	1199	4509
Middle Delta	5790	56.7	0	173	5133
West Delta	3714	12.5	0.3	1585	4714
Upper Egypt	2565	0	0.2	1710	3903
Total of Production Comp.	21477	170.8	4.4	5640	24052
BOOTs	2837	-	-	289	2720
Total Fuel Consumption	24314	170.8	4.4	5929	26772



Fuel Consumption Rate (gm/KWh)



*Including fuel for commissioning tests , BOOTs and without isolated units.

Development of Fuel Consumption in Power Plants (K toe)

Comp.	Station		02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10
Cairo	Shoubra El-Kheima (St)		1753	1673	1936	1849	1779	1700	1996	1776
	Cairo West (St)		431	449	507	492	481	484	483	516
	Cairo West Ext. (St)		845	806	862	869	854	687	547	931
	Cairo South 1 (CC)		792	807	808	830	811	773	792	727
	Cairo South 2 (CC)		219	231	218	233	216	229	229	204
	Cairo North (CC)		-	520	650	880	1443	1561	1296	1577
	Wadi Hof (G)		31	9	25	41	41	65	60	62
	Tebbin (st)		101	47	79	-	-	-	-	-
	Tebbin (G)		13	3	13	16	-	-	-	-
East Delta	Ataka (St)		1028	1136	977	1073	896	1076	1055	937
	Abu Sultan (St)		762	771	797	571	765	859	787	728
	Suez (St)		12	-	-	-	-	-	-	-
	Suez (G)		0.1	0.1	-	-	-	-	-	-
	Shabab (G)		75	35	42	56	29	38	43	65
	Port Said (G)		22	35	19	25	9	19	24	30
	Arish (St)		115	117	137	133	129	123	131	132
	Oyoun Mousa (St)		814	874	914	893	876	944	971	991
	Damietta (CC)		1476	1333	1422	1539	1507	1602	1467	1521
	Sharm El-Sheikh (G)		25	26	32	30	27	50	49	42
	El-Huraghda (G)		17	12	20	26	17	51	55	63
Middle Delta	Talkha (CC)		381	389	427	433	368	419	463	473
	Talkha steam210 (St)		525	521	632	616	525	577	609	633
	Talkha steam (St)		39	-	-	-	-	-	-	-
	Talkha 750 (CC)		-	-	-	-	639	682	816	784
	Nubaria 1,2 (CC)		-	-	31	1258	1366	1583	1670	1679
	Nubaria 3 * (CC)		-	-	-	-	-	-	118	438
	Mahmoudia (CC)		389	410	428	440	436	437	473	479
	Mahmoudia (G)		41	23	29	11	2	3	2	0.7
El-Atf * (CC)		-	-	-	-	-	-	2	646	
West Delta	Kafr El-Dawar (St)		427	456	478	606	668	724	810	721
	Damanhour Ext. 300 (St)		412	405	333	411	417	446	444	445
	Damanhour (St)		263	267	294	273	270	284	326	306
	Damanhour (CC)		186	215	230	217	192	229	231	247
	Abu Kir (St)		797	882	1097	1108	1133	1148	1283	1098
	El-Seiuf (St)		151	143	173	124	170	58	-	-
	El-Seiuf (G)		28	16	41	38	16	39	61	82
	Karmouz (G)		0.3	0.03	1.6	2	0.44	2	2	4
	Sidi Krir (St)		757	815	831	730	809	871	839	952
	Sidi Krir* (CC)		-	-	-	-	-	-	6	750
	Matroh (St)		68	88	102	100	87	84	93	109
Upper Egypt	Walidia (St)		781	602	588	556	640	452	782	639
	Assiut (St)		155	160	163	160	163	166	158	138
	Kuriemat (St)		1335	1480	1689	1806	1688	1755	1965	1611
	Kuriemat 2 (CC)		-	-	-	-	323.1	750	773	760
	Kuriemat 3* (CC)		-	-	-	-	-	-	266	755
Total			15267	15261	17028	18448	19689	20969	22179	24052
Private Sector (BOOT)	Sidi krir 3 , 4 (St)		946	936	926	943	786	886	959	940
	Suez Gulf North West (st)		361	903	905	931	859	873	892	891
	Potr said East (st)		92	896	866	913	862	834	865	889
	Total BOOTs		1399	2735	2697	2787	2597	2593	2716	2720
Grand Total			16666	17996	19725	21235	22286	23562	24895	26772

* The Fuel Consumption includes commissioning tests



Isolated Power Plants

There are 33 power plant (mainly diesel and gas turbine units) and one 5MW wind farm in Hurgeda installed in remote areas and connected to the distribution networks of such areas.



Installed Capacity and Energy Generated from Isolated Power Plants 2009/2010

Company	Number of plants	Installed capacity (MW)	Energy(GWh)	
			Gross	Net
East Delta Prod. Comp.	1	22.4	0.6	0.3
Canal Dist. Comp.*	20	158.6	173.6	170.7
El-Behera Dist. Comp.	4	17.4	23.7	22.8
Middle Egypt Dist. Comp.	7	43.7	19.6	18.4
Upper Egypt Dist. Comp.**	1	2.7	0.004	0.003
Total	33	244.8	217.5	212.2

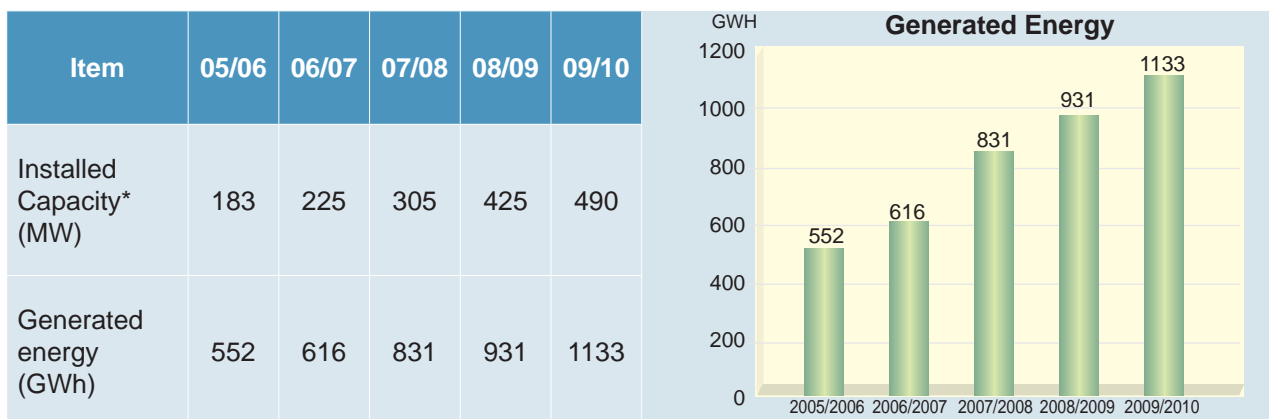
* In addition to Wind Farm with installed capacity of 5 MW in Hurgeda connected to canal distribution company.

Fuel Consumption Rate

Company	Fuel Consumption				Fuel Consumption Rate (Gen) (gm/kwh)
	H.F.O (k.ton)	Special L.F.O (k.ton)	L.F.O (k.ton)	N.G M.m ³	
East Delta Prod. Comp.	-	-	0.18	-	322.62
Canal Dist. Comp.	-	26.4	13.9	31.2	358.2
El-Behera Dist. Comp.	-	-	5.8	-	246.7
Middle Egypt Dist. Comp.	-	-	4.5	-	247.9
Upper Egypt Dist. Comp.	-	-	0.002	-	407.9
Total	-	26.4	24.4	31.2	336.9

Disseminating the Use of New & Renewable Energy

- Within the framework of the Energy Strategy of Egypt, the strategy of the power sector has focused on the diversification of the use of fuel resources, promoting the use of renewable energy and rational use of conventional energy resources.
- Egypt is endowed with abundance of wind energy resources especially in Suez Gulf area which considered one of the best sites in the world due to high and stable wind speeds.
- The West of Suez Gulf Zone is the most promising sites to construct large wind farms due to high wind speeds which ranges between 8-10 meter/second in average and also due to the availability of large un- inhabitant desert area.
- Also there are other promising sites having wind speeds in the range of 7-8 meters/second in the East and West of River Nile near Beni Sweif and Menia Governorates and El-Kharga asis in New Valley Governorate.
- New and Renewable Energy Authority(NREA) ,responsible of disseminating the use of new and renewable energy resources in Egypt ,in cooperation with the leading countries in wind energy, succeeded to became one of the leaders in renewable energy in the region and installed 490MW of wind capacity until 30/6/2010
- EEHC cooperates with NREA, through the following:
 - 1) Generation and Operational Planning taking into consideration the contribution of the renewable energy.
 - 2) Wind Integration Studies and Network Planning to ensure the safe and reliable power transfer of wind energy and other renewables from renewable projects to the load centers.
 - 3) Purchase of energy generated from the wind farms at reasonable price to encourage the use of renewable energy.
 - 4) The development of all phases of the competitive bidding process for the BOO wind power projects.



* There is wind farm with installed capacity 5 MW connected to Canal distribution Network.



Renewable Energy Development Program

First: Wind Energy

- On April 10, 2007, The Supreme Energy Council in Egypt adopted a resolution on an ambitious plan aiming at increasing the contribution of renewable energy to reach 20% of total energy generated by 2020 from which hydro power contributes by 8% and wind and other renewable resources by 12%.
- The target will be met by scaling up wind energy capacities to reach 7200MW in year 2020 producing about 31 billion kWh yearly resulting in annual; fuel saving of about seven million ton of oil equivalent and 17 million ton CO₂ emission reductions.
- About 7650 square kilometers state-owned land already allocated from the Government of Egypt to build large scale wind power projects in Gulf of Suez as well as East and West of River Nile.
- Wind energy development in Egypt will be implemented by constructing wind power projects connected to the National Grid through two different programs.

I : NREA wind energy development program with total capacity of 2375 MW:

NREA programme is supported by Multilateral and Bilateral international financing agencies and by Ministry of Finance by providing NREA with soft financing and grants to implement its program as well as all the pre-development work for the sites, including land allocation, mine clearing, aerial marking requirements, and Environmental Impact Assessment (EIA), in particular avian (bird) studies.

II : Commercial wind program for Independent Power Producers (IPPs) with total capacity of 4825 MW through:

1. Competitive bidding commercial wind programme:

This Program is to select experienced independent power producers / through competitive bidding to build, own, and operate (BOO) Wind Power Plants for a term of (20-25) years, on predetermined sites on the shores of the Gulf of Suez and East and West of River Nile. The (EETC) shall purchase the energy generated from the Wind Power Plant during the term according to the terms and conditions of the power purchase agreement (PPA)

2. Commercial wind programme based on feed-in tariff system:

This programme will be applied for smaller scale wind farms up to 50MW to be executed either on predetermined sites allocated by The Government of Egypt or on private sites owned by the developers, the EETC shall purchase the energy generated from the wind farms by a price set and approved by the concerned authorities

3. Other private sector participation schemes:

It includes bilateral agreement between the IPP wind power project and its direct customers and the EETC provide third party access to transfer the power from the power plant to the customers. Also the EETC will purchase any excess wind power and provide supplemental energy to the customers during low wind production times.

Since commercial wind power projects is a new experience, the Electricity Sector opted to start with competitive bidding scheme as the Legal and Regulatory Framework was set since 1996 and also to have reference prices through competitive bidding to be the basis for establishing the Feed-In Tariff.

On May 14, 2009 The EETC issued a Request for Prequalification, (RFPQ), inviting independent power producers/developers to submit their qualifications to build, own, and operate (BOO) a 250MW Wind Power Plant on a predetermined site on the shores of the Gulf of Suez, short list of ten consortiums was announced in October 2009. Nine of the shortlisted bidders jointly formed a "Joint Site Measurement Program", the Joint Program includes site wind measurement, topographical survey and geographical investigation. It is intended to have the Wind Power Project operational by 2014.

Second: Solar Energy:

- The construction of the first solar thermal power plant at Kuriemat with total installed capacity of 140MW with solar share of 20MW, based on parabolic trough technology integrated with combined cycle power plant using natural gas as a fuel. The power plant is financed from the Global Environmental Facility (GEF) and the Japan Bank for International Development.

Commercial operation of the project is scheduled to be by the end of 2010 with estimated total energy generated of 852GWh/year.

- Solar Energy Program to be implemented during the five year



Electric Power Transmission

Egyptian Electricity Transmission Company (EETC)

Objectives:

1. Management, operation and maintenance of electric power transmission grids on Extra and High Voltages all over the country, with the optimal economic usage of those grids.
2. Organization 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. Purchase of electric 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. Co-ordination with the production and distribution companies for providing electric energy on the various voltages for all uses with high efficiency.
5. Co-operation with the Egyptian Electricity Holding Company in preparing technical and economical studies to meet the demand on electricity and its stability.
6. Implementation of electric power transmission projects on extra and high voltages approved by EEHC Management and in accordance with the time schedules.
7. Implementation of the interconnection projects approved by EEHC Board of Directors, exchange of electric power with other power grids interconnected to the Egyptian Grid.
8. Carry out demand forecast for its direct customers as well as the 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, so as to realize economical benefit to the company.



Company	Geographical zone	Headquarter	Address	Tel
Egyptian Electricity Transmission Company	Electricity Transmission Grids on Extra and High Voltage all over the Country	Cairo	Abbassia - Nasr City P.Code 11517	02 - 22618 579 02 - 26843 824

Total number of shares : 4311160 share
 Total Equity Capital : 4311.160 million EGP

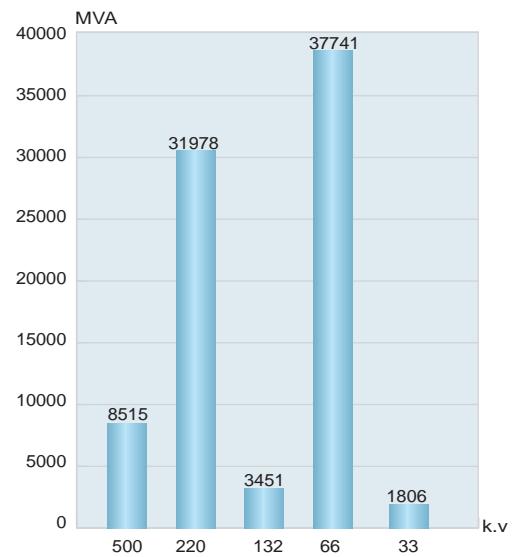


Transmission Network Statistics (30/06/2010)



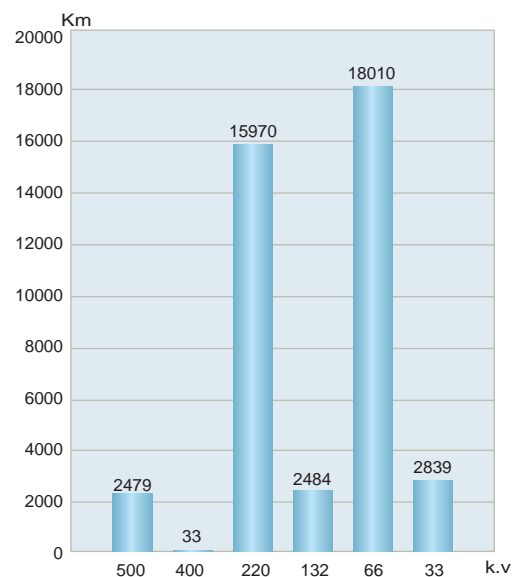
Total Transformers Capacities (MVA)

Zone	500 k.v	220 k.v	132 k.v	66 k.v	33 k.v
Cairo	1500	9315	-	13157	-
Canal	1750	7963	-	6108	-
Delta	-	3750	-	5461	-
Alexandria & West Delta	-	5260	-	6778	-
Middle Egypt	3285	2625	861	2965	838
Upper Egypt	1980	3065	2590	3272	968
Total	8515	31978	3451	37741	1806



Total Transmission Lines and cables (km)

Zone	500 k.v	400 k.v	220 k.v	132 k.v	66 k.v	33 k.v
Cairo	212	-	1219	-	2804	-
Canal	409	33	5234	-	3400	-
Delta	-	-	1549	-	3287	-
Alexandria & West Delta	217	-	3446	-	3888	-
Middle Egypt	885	-	2312	1175	2335	1306
Upper Egypt	756	-	2210	1309	2296	1533
Total	2479	33	15970	2484	18010	2839

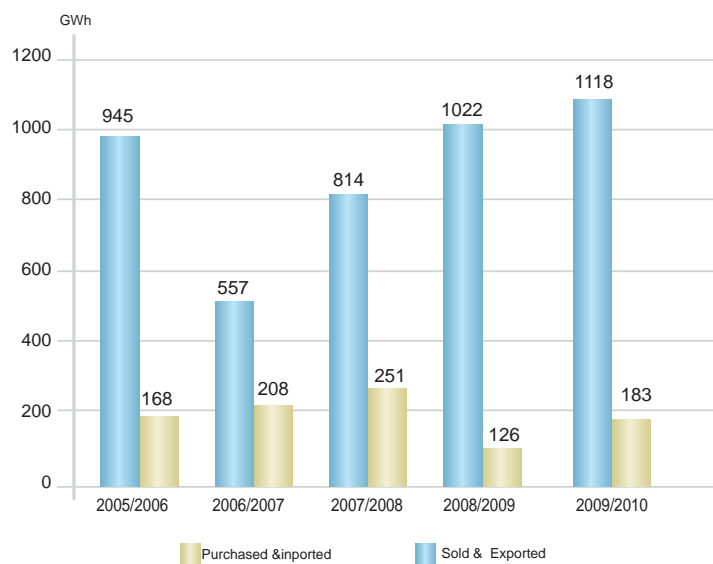


International Electrical Interconnection

The Egyptian power sector since more than twenty five years was keen to improve its performance through diversification of electrical energy resources and adopting new policies for energy trade at regional and international levels. This could be achieved through several axes of electrical interconnection with Arab, African and European countries as follows:

Description	Libya	Jordan	Syria	Lebanon
Interconnection voltage K.V	220	400	400	400
Sold & Exported Energy (GWh)	116	318	63	621
Purchased & Imported Energy (GWh)	120	44	19	-

• includes in-kind exchange



I. The Axis of Integrated Arab Electrical Interconnection

- The following interconnections are in operation:

Electrical Interconnection Egypt-Libya	5/1998
Electrical Interconnection Egypt-Jordan	10/1998
Electrical Interconnection Syria-Jordan	3/2000
Electrical Interconnection Syria-Lebanon	5/2009

This has led to the interconnection between the transmission systems of Lebanon, Syria, Jordan, Egypt and Libya.

- An agreement was reached between the five interconnected countries that Egypt will export 450 MW to be equally shared between the four countries.
- As for the interconnection between Mashreq and Arab Maghreb countries (Libya, Tunisia, Algeria and Morocco), the operational arrangements are under preparation to assure the success of the commissioning of the interconnection line Libya - Tunisia in order to achieve the interconnection between Arab Mashreq and Arab Maghreb countries.
- In the framework of achieving the Integrated Arab Electrical Interconnection, the techno-economic feasibility study for the interconnection between the Kingdom Of Saudi Arabia and Egypt has been completed. The study concluded the feasibility of exchange of power up to 3000 MW between the two countries. The implementation of this project - which is planned to be completed by 2013 - will lead to an integrated interconnection between Maghreb Arab Countries, Mashreq Arab



Countries and the Countries of Gulf Cooperation Council; which represents about 98% of total power generation capacity of the Arab Countries.

I I. The Axis of African Electrical Interconnection:

- Since the beginning of the nineties, Egypt studied the possibilities of electrical energy trade with African countries. Techno-economic feasibility study for the interconnection between Aswan in Egypt and Inga Dam in Democratic Republic of Congo (DRC) passing through Central Africa and Sudan to transmit 40 GW of hydro power generated from Inga to North Africa and Europe was conducted.
- In order the dream for interconnecting the African countries became true , techno-economic feasibility study for electrical energy trade between the Eastern Nile Basin countries (Egypt, Ethiopia, and Sudan) completed in December 2008. The study concluded the feasibility of exporting 3200 MW from Ethiopia to Sudan (1200MW) and to Egypt (2000MW).
- Moreover, Egypt is a member of the East Africa Energy Forum comprising nine countries (Egypt, Ethiopia, Sudan, Kenya, Rwanda, Burundi, Tanzania, Uganda, Democratic republic of Congo) in addition to its effective participation in the committees and meetings of the African Union for Production and Distribution of Electrical Energy(UPDEA) comprising more than fifty African countries.

I I I. The Axis of Electrical Interconnection with Europe:

Through Egypt`s participation in the Observatoire Mediterranee de l'Energie (OME) and the Study Committee for the electrical interconnection of the Southern and Eastern Mediterranean Countries as an introduction to the interconnection with the European network and exporting renewable energy (Solar and Wind) from Egypt to Europe.

Discussions are on the way between Egypt and Greece for the interconnection between the networks of the two countries to have direct interconnection with Europe.

Accordingly, Egypt will become the focal and central point for electrical energy trade between Countries of Gulf Cooperation Council, Arab Mashregh, Arab Maghreb, Nile Basin countries and Europe.

Future Vision for Regional Electrical Interconnection

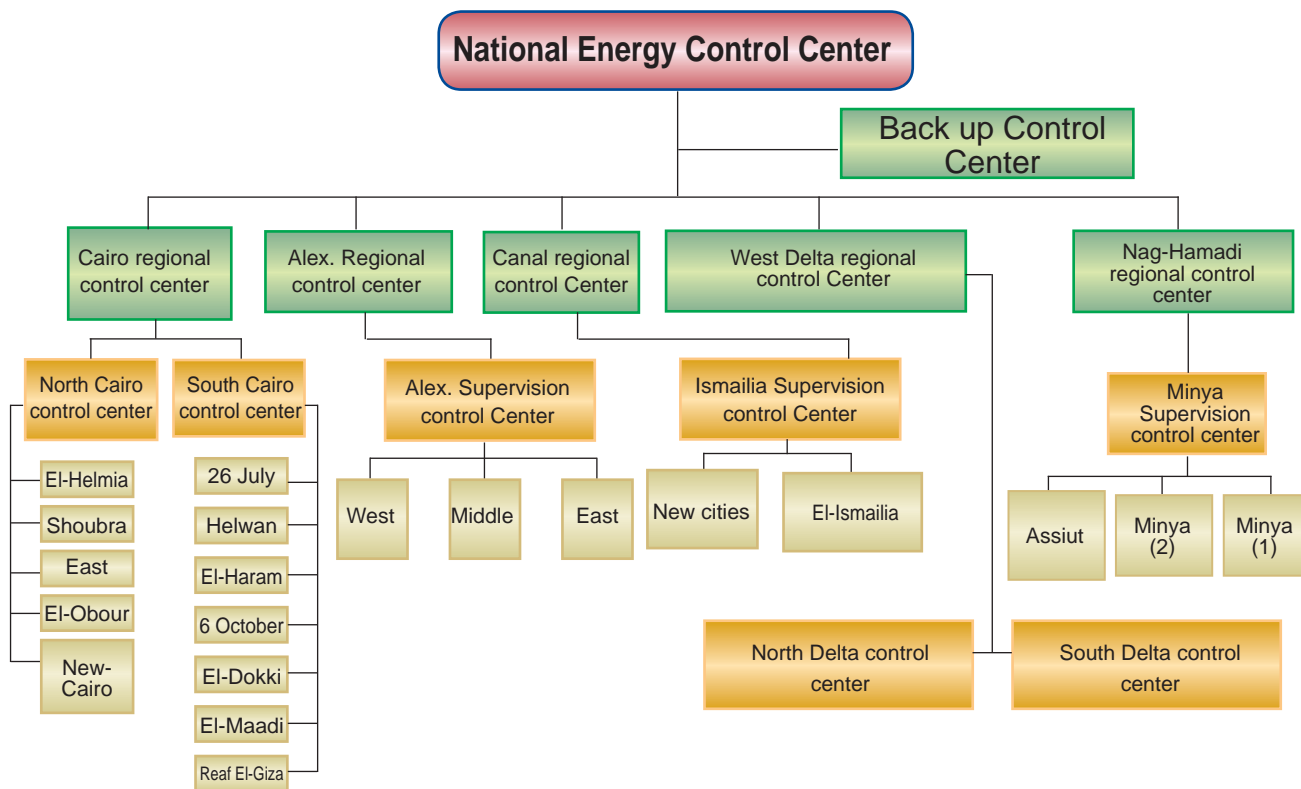
Study for upgrading the interconnection with Arab Maghreb Countries through Libya to 500/400 kV has been finalized in April, 2004.

The study final report was presented to the concerned countries (ELTAM) , and it was agreed to implement the recommended projects for repowering the national networks (500/400KV) of Egypt and Arab Maghreb Countries and each country will implement the repowering projects according to the proposed time schedule in the study.

Egypt will implement the construction of the 500KV Sidi Krir / El Saloom line and El Saloom 500 KV substation during the five year plan 2012-2017 in line with the upgrade projects of the voltage level to 400 KV of the Arab Maghreb countries like Libia, in order to benefit from the timely execution of upgrade projects in both sides.

Control Centers For Ultra High, High and Medium Voltage Networks

The Egyptian Electricity Holding Company (EEHC) main goal is to ensure the availability and stability of electricity supply to all consumers; industrial, commercial, irrigation and residential, by fast recovery of power interruptions and reduction of the rate of interruptible power supply. To achieve this goal, EETC introduced the most up-to-date automatic control systems applied in developed countries to control the operation of its national power grid by designing a pyramidal control systems headed by National Control Center(NCC) responsible of generating units dispatch and operational control of ultra high voltage(UHV) 500KV&220KV networks, followed by Regional Control Centers(RCC) responsible of operational control of high voltage (HV) 132&66KV transmission networks and then the Distribution Control Centers (DCC)responsible of the operation control of medium voltage networks.



- On september 7, 2010, Consulting Services Contract was signed with ERNIA Consulting Company for the development of the NCC to include Marketing Systems.
- On April, 8, 2010, consulting services contract was signed with TEPKO/EPS consulting group for the upgrade and renovation of Naga Hamadi (132/66 KV)RCC and to construct Asuit(132/66 KV) RCC to be implemented during 48 months.



Electric Power Distribution

Distribution Companies

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



Objectives:

- 1- Distributing and selling to customers on medium and low voltages, electric power purchased from the Egyptian Electricity Transmission Company and from the Egyptian Electricity Production Companies on medium voltage, and also electric power purchased from industrial and other IPP's exceeding their needs, provided that the approval of EEHC Board is obtained.
- 2- Managing, operating and maintaining medium and low voltage grids in the company, in compliance with the dispatch centers instructions as to fit for economic operation requisites.
- 3- Preparing forecast Plan studies on loads and energy for customers of the company and economic and financial forecasts for the company.
- 4- Conducting studies, researches, designs, and implementing electrical projects for different purposes on the medium and low voltages, and carrying out all associated works.
- 5- Managing, operating and maintaining isolated units.
- 6- Carrying out any other works or activities related to or fulfilling the company's objectives, in addition to any other work that may be entrusted to the company by EEHC, within its scope of work.
- 7- Carrying out other works entrusted to the Company by other party, within its scope of work, so as to realize an economic benefit for the company.

Information about Disrtibution Companies

Company	Geographical zone	Headquarter	No. of Shares	Equity Capital million EGP	Address	Tel.
North Cairo	North and East Cairo Sectors-Cairo Governorate, New Cairo, Helwan, El-Obour, Khanka, Shoubra Elkhima, Elcanater-Kalupya Governorate	Cairo	17368500	173.685	4 Nasr Road Cairo	02/22725095
South Cairo	South Sectors Cairo, in Cairo Governorate, Giza, Helwan (Exept New Cairo) & 6 of October Governorates	Cairo	25348800	253.488	53, 26 th July St., Cairo	02/25766400 02/25760383
Alexandria	Alexandria Governorate, to Kilo 66 Alex- Matrouh Road	Alexandria	19544350	195.444	9 Sedi El-Metwalli St., Attarien	03/ 3911967 03/3933223
Canal	Ismailia , PortSaid , Suez, Sharkia, North Sinai, South Sinai & Red Sea Governorates	Ismailia	25223487	252.235	Osman Ahmed Osman Square, El-Sheikh zayad Ismailia	064/33208240
North Delta	Dekahlia, Damietta & Kafr El-Sheikh Governorates	Dakahlya	21359723	213.597	Abd El Salam Aref St., adjacent to Stadium, Mansoura	050/2304186 050/2304187
South Delta	Kalubya (Exept Great Cairo), Menoufia (Expet El Sadat City Elkhataba) & Gharbia Governorates	Gharbia	22274638	222.746	Tanta-Seberbay 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	13200313	132.003	1 Gomhorya St., Thanawi Zone, Behera	045/3318030 045/3324399
Middle Egypt	Beni Suif, Fayoum, Minia, Assiut & New Vally Governorates	Minia	17688702	176.887	78 Horrya St., Minia	086/2353527 086/2346733
Upper Egypt	Sohag, Qena, Aswan Governorates and Luxor City.	Aswan	12993900	129.939	High Dam – West Aswan	097/3480416 097/3480317



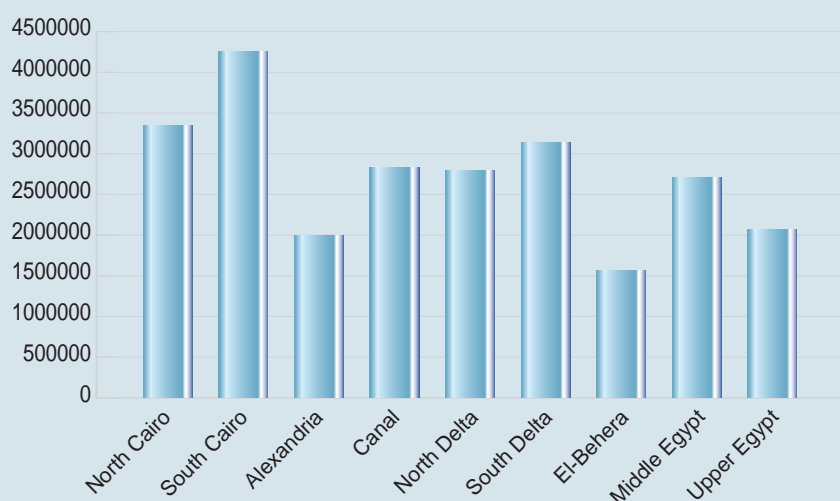
Medium and Low Voltage Network in 30/06/2010

Item	Comp.	North Cairo	South Cairo	Alex.	Canal	North Delta	South Delta	EI Behera	Middle Egypt	Upper Egypt	Total
No. of M V Switchboards		341	320	190	1069	157	104	236	109	96	2622
Length of M V network(km)	Lines	515	2906	577	14010	9685	7445	12582	15473	10185	73324
	Cables	13617	17129	9714	15662	5010	3120	3834	4621	5189	77896
	Total	14132	20035	10292	29672	14695	10565	16362	20093	15374	151220
Length of LV Network(km)	Lines	2762	4455	2679	28626	21672	17409	14680	32342	28498	153121
	Cables	28567	30075	5558	13016	2660	752	2301	1535	1471	85935
	Total	31329	34530	8236	41642	24333	18161	16981	33876	29968	239056
Total length of MV & LV Lines & Cables (Km)		45461	54564	18528	71314	39028	28726	33343	53970	45342	390276
Distribution Transformers	(No.)	14516	17916	6985	26100	14698	14022	17770	19832	18076	149915
	(MVA)	11018	11256	4151	9991	4084	4218	3780	4167	3918	56584
Number of LV Pillars and Panels		35786	52442	6985	19364	16376	14109	20368	12463	19271	197164



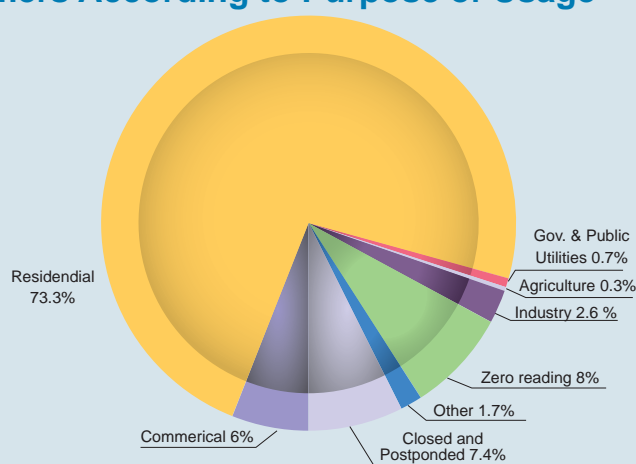
Number of Customers in Distribution Companies

Company	No. of Customers
North Cairo	3440225
South Cairo	4381920
Alexandria	2037551
Canal	2939597
North Delta	2969731
South Delta	3282504
El-Behera	1630842
Middle Egypt	2792977
Upper Egypt	2181537
Total	25656884



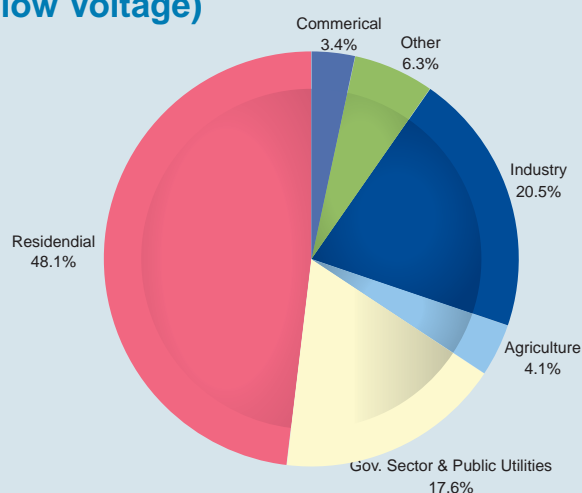
Number of Customers According to Purpose of Usage

Purpose of Usage	No. of Customers
Industry	656479
Agriculture	83336
Gov. & Public Utilities	185954
Residential	18800239
Commercial	1536005
Closed and postponed	1906547
Other	428078
Zero reading	2060246
Total	25656884



Energy Sold from Distribution Companies According to Purpose of Usage (Medium and low Voltage)

Purpose of Usage	Quantity	
	GWh	%
Industry	20174	20.5
Agriculture	4005	4.1
Gov. Sector & Public Utilities	17427	17.6
Residential	47431	48.1
Commercial Shops	3378	3.4
Other	6218	6.3
Total	98633	100





Development of Customers Services

I Development of customer service centers:

Distribution companies set a plan for the development, renovation and automation of customers' technical and commercial service centers in order to facilitate, improve and modernize the services provided to their customers

The development includes the following:

A. Renovation of customer service centers buildings:

- Renovation of customer service centers buildings (painting, lighting, furniture and customers reception halls).
- Explanatory instructions are placed everywhere on the walls of customers reception halls in commercial centers indicating the procedures and documents needed for each type of services.

B. Technical and Commercial development of Customer Service Centers:

- Automation of the services by computerizing all the processes of providing the services.
- Provide commercial services (new supply contracts, reinforcement and modification of existing contract, temporary connections, changing place of boxes and meters....etc)
- Automation of customer meter readings by using electronic meters .
- Customer deals with one window.

The total number of customer service centers reached about 378 in the cities and 879 branches in the villages in 2009/10 compared to 365 centers and 876 branches in 2008/09 to facilitate reporting for any faults or interruptions and to insure quick actions to minimize the interruption time .

Management reform of the centers:

In order to facilitate providing services and procedures for connecting customers, Ministry of Electricity And Energy prepared the following:

1. five forms for public services;

- Request for connecting electricity to buildings (all types of usages).
- Request for meter testing and calibration.
- Request for disconnecting the meter.
- Request for obtaining information about customer consumption.
- Request for the installation of power factor correction devices.



These Forms are on the internet site (www.edara.gov.eg).

2. Directory for connecting electricity to investment projects was issued; it includes all steps, procedures, documents, fees and approvals needed payments of the fees, and the forms of connection agreement and supply contracts. also an official representative of the Ministry of Electricity and liaison officers for the transmission and distribution companies were assigned to the Complex of Investment Services in Cairo , in order to finalize all required procedures for investors.

The Directory is on the Web Site (www.egyptera.org).

3. Directory for connecting electricity to housing buildings in urban and rural areas including rules for defining the total area of the house and the design capacity according to the building houses living standard in rural, urban and districts .It also includes all procedures ,documents, and approvals needed for connecting electricity to any house and the bases for calculating the connection fees ,the time schedule for connection and the conditions for the availability and specifications of the room for the installation of a distribution transformer.

The Directory is on the Web Site (www.egyptera.org).

II : The use of insulated conductors instead of un-insulated conductors:

Great care has been given to change un-insulated low voltage conductors by insulated conductors, without any additional cost on customers, in order to protect the customers from fire dangers due to the falling down of un-insulated conductors. The total length of the insulated conductors installed in the distribution network reached about 401 thousand Km in 30/6/2010 representing 68% of the total low voltage network in distribution companies .

III :Guarantee certain level of quality of supply in electricity companies through the improvement of the level of continuity of supply to customers.

The following procedures have been taken to improve continuity of supply indices in the distribution company.

- Analysis of the causes in case of increased un-planned interruptions and relate it to network renovation and rehabilitation plans.
- Follow-up the implementation of maintenance programs to insure optimizations of interruption of supply time and at the same time implementation of the maintenance procedures with high quality.
- Intensive field inspections and data collection for interruptions, these data are compared with the recorded data to check for accuracy.
- Insure high quality of the services provided by the call centers in case of interruptions.
- The use of automatic restoration devices for overhead lines with high interruption rates, this system enables quick restoration for minor faults and help in locating the place of major faults, resulting in reducing restoration time and number of interruptions.
- Setting annual plan for the rehabilitation and extension of system components in order to meet the growth of demand and reduce interruption rates. In addition to the implementation of the most up-to-date maintenance and rehabilitation procedures for power plants and transmission and distribution networks.

IV:Supply of electricity to slum areas and building constructed illegally:

Upon the guidance of H.E the President of the Republic of Egypt, and the approval of the Cabinet dated 26/10/2005 for supplying electricity to slum areas, and the Council of Governors approval for supplying electricity to illegally constructed buildings on November first,2005.

Ministry of Electricity and Energy set a plan starting from 1/1/2006 to supply the slums and illegally constructed buildings in stages.

Status of electricity supply to slum areas and illegally constructed buildings till the first of October 2010 :

a) Slum areas:

- Electricity were supplied to 443 thousand households representing 99.7% of the number who paid the supply cost in the first stage (connecting the households near the source of supply)
- Electricity were supplied to 29.8 thousand households representing 97.3% of the number who paid the supply cost in the second stage (connecting the households far from the source of supply).

b) Illegal constructed buildings:

- 535 thousand requests were received from the owners of the buildings, approval for connecting electricity to 423 thousand requests was received from the Governorates, 353.5 thousands were connected representing 99.4% of the number paid the supply cost .

IV: Trace- passes on transmission lines right of way:

- Due to continuous habitat extensions and the construction of buildings in the safety distances of the right of way of overhead transmission lines, and in order to secure the structures and personnel, Electricity Companies periodically register the routs of transmission lines with trace passes on the safety distances in their right of way to be included in the companies` plans to change the overhead lines to cables or change the line routs.
- Governorates were requested to finance these changes.
- Some of the over head transmission lines with trace-passes already replaced by underground cables or their right of way changed to be out side the inhabitant area, coordination with governorate is going on to complete the changes required in the network to cure the rest of the trace-passes.



Energy Efficiency Improvement and Energy Conservation

First: Energy Conservation Measures:

Energy conservation measures are applied to different purposes of consumption and includes among others:

- Use of high efficiency lighting technologies such as compact fluorescent lamps to replace incandescent lamps, electronic ballasts used with the fluorescent lamps instead of magnetic ballasts and lighting management control systems.
- Use of high efficient household electrical appliances especially for the high consuming ones such as air conditioners, washing machines, refrigerators and which offers high saving potential.
- Rational use of electricity such as using natural lighting during the day, shut off light in unoccupied places, adjust the air conditioner temperature at a reasonable temperature compared to outside temperature, cleaning the air conditioner filters.

Second: Energy Conservation Programs and Load Reduction

Lighting accounts for nearly 23 % of the total energy sold in the country. The residential sector and public lighting are the highest consuming sectors, therefore efforts and programs have been focused towards these two sectors: Compact Fluorescent Lamps (CFLs) and electronic ballasts have been targeted to reduce the share of lighting in total energy consumption, due to their simple technology, does not need special preparation, short pay back period and high impact on energy saving and CO2 reduction

1-Energy conservation programs in residential sector:

The Ministry of Electricity and Energy has started an ambitious program to encourage residential customers using the Compact fluorescent lamps by selling the lamps through the Electricity Distribution Companies for half of their prices with a guarantee period of 18 months and a maximum of 10 lamps per customer.

The first phase of the program was launched in 2009 where 6.2 million lamps have been sold.

Building on the success of the first phase, a second phase started in 2010 for selling an additional 3 million lamps with the same system but with a maximum of 5 lamps per customer. - This program has contributed to a large diffusion of high quality, low Cost CFLs.

2-Energy Efficiency Improvement of Street Lighting:

Street lighting is designed to create accurate and comfortable seeing for both vehicles and pedestrians during night time and under a wide variety of weather condition,

The conducted survey for types and numbers of street lighting lamps over the country revealed that the most common type of lamps used for street lighting are 400,250watt sodium lamps, 250.125 mercury vapor lamps, 160 watt flora and 100-200 incandescent lamps.

The sodium lamps are high efficient but highly electricity consuming and in some streets gives higher light intensity than international standards while the flora, mercury vapor and incandescent lamps are low efficient.

Measured levels of light intensity in some roads (freeway, major streets, minor streets...) was as much as 2-5 times the international standards.

Therefore international standards of street lighting have been carefully reviewed, and Egyptian technical specifications have been developed based on international experience and international standards for the 85- 90,120-125 watt Compact fluorescent lamps and 100,150 watt high pressure sodium lamps.

Level of light intensity in different types of streets in Egypt compared to International Standards

Type of street	Level of light intensity International Standard (Lux)	Level of light intensity as Measured in Egypt	
		(Lux)	% of international standards
High way	22	54	245
Major streets	15	73	486
Minor streets	10	139	1390

The high level of light intensity in Egypt is mainly attributed to :

- High length of poles in narrow streets and short distances between them .
- Use of different types of lamps and especially decorative types in the same street.
- Use of high wattage lamps or non efficient lamps.

In order to reduce high amount of electricity consumption of street lighting and based on the recommendation of the Supreme Council of Energy for implementation of energy efficiency programs in different sectors among which the street lighting, a program is currently implemented to replace high consuming lamps with efficient ones while maintaining the level of light intensity and uniformity of distribution for different street types in accordance with the international standards.

The first stage of the program is implemented in Greater Cairo where the 250 watt mercury vapor and sodium lamps in minor streets are replaced by CFLs in the district of Shoubrah and East of Nasr City.

The measurements taken after replacement shows that the level of light intensity and uniformity are in accordance with the international standards.

Through the second, third and fourth stages tenders were issued for the procurement of 85-90, 120-125 watt CFLs and 100-150 watt high pressure sodium.

The plan is to use 100,150 watt high pressure sodium lamps to replace the 250 watt sodium lamps in major streets, these lamps in turn will replace the 400watt sodium lamps in order to gradually phase out the high wattage sodium lamps.

The four stages are covering Cairo, Alexandria, Delta, Canal, Middle Egypt and Upper Egypt zones and the total number of lamps expected to be replaced are 375350 lamps which represents 9% of the total number of lamps over the country.

The program is expected to be further extended to cover the whole country through the finance provided by the Ministry of Finance with an amount of Million L.E 260.



Human Resources

The Egyptian Electricity Holding Company (EEHC) and its affiliated Companies depend on the human resources as a main support to cope with the remarkable development in the production, transmission, distribution and utilization of electrical power. The EEHC is profoundly keen on the development of basic skills and the continuous upgrading of human resource capabilities to cope with the advanced technologies .

In this context, the following has been achieved:

I- Human resources

Total number of EEHC employees for the year 2009/2010:

Production Companies

Cairo	5782
East Delta	6458
Middle Delta	5881
West Delta	8070
Upper Egypt	3436
Hydro Plants	3615
Total	33242

Egyptian Electricity Transmission Company	31844
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Total No. of employees of EEHC and its affiliated companies

170513

item	Number in 30/6/2010
Head Quarter	2026
Electricity Hospital*	1167
Total	3193

* including shifts totaling to 439 workers

Distribution Companies

North Cairo	11973
South Cairo	15243
Alexandria	13324
Canal	17021
North Delta	8920
South Delta	10544
El-Behera	7564
Middle Egypt	9787
Upper Egypt	7858
Total	102234

II. Health Care:

EEHC is focusing its efforts on improving the performance of the Electricity Hospital, overcoming work obstacles and achieving its economic operation. Efforts exerted are represented in rationalizing expenses and improving the quality of services.

III. Training :

No.	Item	No. of Trainees
1	Trainees working at the Holding company, the affiliated companies and the Ministry of Electricity and Energy	57960
2	Trainees from the Arab and African countries	618
3	Summer training for college and High Institutes students	4340
4	Co-Classes in cooperation with the Ministry of Education: (No. of graduates:)	
	A) 3 years System	29
	B) 5 years System	21
	C) Mubarak- Cole System	29
5	Cooperation with faculty of engineering, Cairo university:	
	1- Number of power plants Diplomas	11
	2- Number of Protection & Control Diplomas	49



Electricity Hospital

The Egyptian Electricity Holding Company is keen to provide health care to all its employees and has therefore constructed the electricity hospital which has gained a high medical reputation due to its competence and high expertise.

Continuous efforts are exerted to improve the quality of medical services and develop the existing facilities such as the Intensive Care Unit, the Dialysis unit, the Bronchoscope, the Endoscopy, and introduce new ones such as the MRI, thus achieving an excellent medical service available to patients from the power sector as well as outside patients where a 24 hours service is available through consultants and specialists.



The hospital is keen to ensure a good quality of services with a quick response to the requirements of its patients to achieve their satisfaction.

Number of beds
260

**Number of surgical and Endoscopy
operation rooms**
8

External Clinics
30

Hospital Address: El Thawra Street- Almaza, Km 4.5 Cairo/Suez Road
Tel:02/ 22687843 Emergency:02/24149845



Commercial Activities

Electricity Pricing:

1. The electricity tariff applied in Egypt is structured according to the following:

Supply Voltage levels:

Prices depend on the supply voltage level ,where costs are calculated at the generation sent out and network investment , operation and losses costs was added for each network voltage level ,resulting in increased costs with the decrease in voltage level.

Purpose of consumption :

For Industrial consumers ,depends on voltage level and tariffs differ according to type of industry(energy intensive , labor intensive , others)

For other usages (government , public utilities , services) it is unified according to voltage level except street lighting.

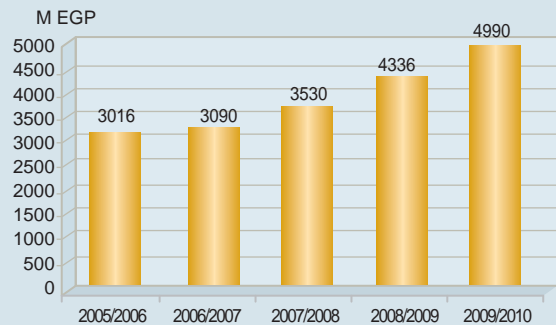
It is mainly an energy tariff, with exception to consumers supplied from medium voltage and have peak demand >500KW, the tariff includes both demand charge and energy charge.

Tariff structure with ascending segments is applied to residential and commercial consumers.

2. The social concern and conservation of energy has always been taken into consideration when setting the electricity tariff in Egypt. The tariff applied to residential consumers is structured with ascending segments which is known as life line tariff where monthly electricity bill is calculated by dividing the consumption on the tariff segments. This structure encourages consumers with high consumption to conserve energy and at the same time they subsidies part of the vulnerable consumer consumptions .

Although the cost of service is increasing every year, the tariff applied to the first segment of residential consumption (up to 50 kWh/month represents 23% of total number of residential consumers) is heavily subsidised, 5 Piaster's/kWh ,it covers less than 25% of The cost of service to residential consumers and is constant since 1993.Also residential consumption up to 744 KWh/month is subsidized .

Year	Subsidy M EGP
2005/2006	3016
2006/2007	3090
2007/2008	3530
2008/2009	4336
2009/2010	4990



Tariff Structure Applied as of 1/10/2008

1- Power Service on Very High Voltage (Pt/KWh)	
Kima	4.7
Metro- Ramsis	6.8
Somed	27.3
Other Consumers	12.9
2- Power Service on High Voltage (Pt/KWh)	
Metro - Toura	11.34
Other Consumers	15.7
3- Power Service on Medium & Low Voltage	
3/1- More than 500 KW	
* Demand Charge (LE/kw-month)	9.5
* Energy Rates (pt/kWh)	21.4
3/2- Up to 500 KW	
a- Agriculture (Pt/KWh)	11.2
Annual Charge per fedan for Irrigation by groups (LE)	135.2
b- Other purposes(Pt/KWh)	25.0

4-Residential :

Description	Price (Pt/KWh)
1) First 50 kWh monthly	5.0
2) 51 - 200 kWh monthly	11.0
3) 201 - 350 kWh monthly	16.0
4) 351 - 650 kWh monthly	24.0
5) 651 - 1000 kWh monthly	39.0
6) More Than 1000 kWh monthly	48.0

5 - Commercial :

Description	Price (Pt/KWh)
1) First 100 kWh monthly	24.0
2) 101 - 250 kWh monthly	36.0
3) 251 - 600 kWh monthly	46.0
4) 601 - 1000 kWh monthly	58.0
5) More Than 1000 kWh monthly	60.0

6 - Public Lighting

41.2

- The price is based on Power Factor 0.9

Electricity Prices to Industries Subjected to Prime Minister Decree No 2130 for year 2010 applied as of 1/7/2010

	Energy Price (pt/kwh)	
	Out of peak	During peak
First: Energy intensive industries (Iron - Cement - Fertilizers- Aluminum - Copper - petrochemicals)		
- Very High Voltage	21.7	32.6
- High Voltage.	26.3	39.5
- Medium Voltage : Demand charge 12.1 (LE/Kw-month)	35.8	53.8
Second : industries (Glass - Ceramic & Borcelen)		
- Very High Voltage	15.9	
- High Voltage.	19.2	
- Medium Voltage : Demand charge 11.1 (LE/Kw-month)	26.3	
Third : Others Industries (not mentioned in first & second)		
- Very High Voltage	15.14	
- High Voltage.	18.6	
- Medium Voltage : Demand charge 11.1 (LE/Kw-month)	25.5	

* The Ministry of Electricity & Energy is responsible for determining the peak hours.

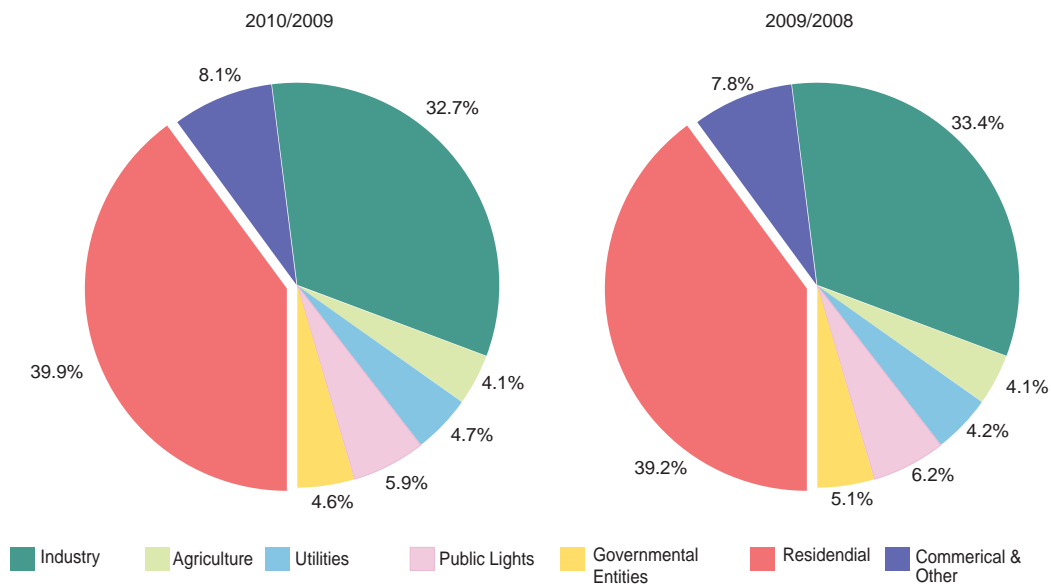


Energy Sold by Purpose of usage (GWh)

Purpose of usage	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Industries	32701	34569	37045	37273	38916
Agriculture	3719	3789	4209	4617	4834
Utilities	4206	4228	4380	4714	5555
Public lighting	6489	6653	6759	6982	7050
Governmental Entities	5054	5562	5691	5563	5443
Residential	33900	36596	40271	43811	47431
Commerical&Others	6016	7046	8240	8754	9674
Total	92085	98443	106595	111714	118903

Interconnection&BOOT	774	369	631	903	1277
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Grand total	92859	98812	107226	112617	120180
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Sales Development

The considerable growth in household loads in comparison with industry during year 2009/2010 was mainly due to the country wide expansion of new communities and buildings and the excessive usage of domestic appliances especially air conditioning during the hot summer days.

