



**Ministry of Electricity & Renewable Energy
(MOERE)**



**Japan International Cooperation Agency
(JICA)**

Energy Policy (B)

June 2019

Country Report *(EGYPT)*

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- a. Country profile
- b. Economic indicators (GDP, population, No. of households, etc.)

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EGYPT



The Gift of the Nile

Egypt Location :

Egypt is in Africa

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Map of North Africa

Country profile

Item	Statement
Total area	About One Million km ²
Coordinates	26.0000° N, 30.0000° E
Capital	Cairo
Population	98 Million (1/1/2019) (Populated area 7.8%)
Number of Governorates	27
Unemployment Rate	11.8 % (2017)
Adult literacy	66.8% (for over 15-year-olds)
Life Expectancy	72 years

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Economic Indicators

- GDP:

3588.4 billion LE in 2018 (213.6 billion USD) – “Estimates of CAPMAS* ”

-GDP per Capita:

nearly 2177 USD

-Inflation rate:

14.4% in 2018 “Estimates of CAPMAS”

-Fiscal Year:

From 1 July to 30 June (for Governmental institutions) & From 1 Jan to 31 Dec (for privet sector company's)

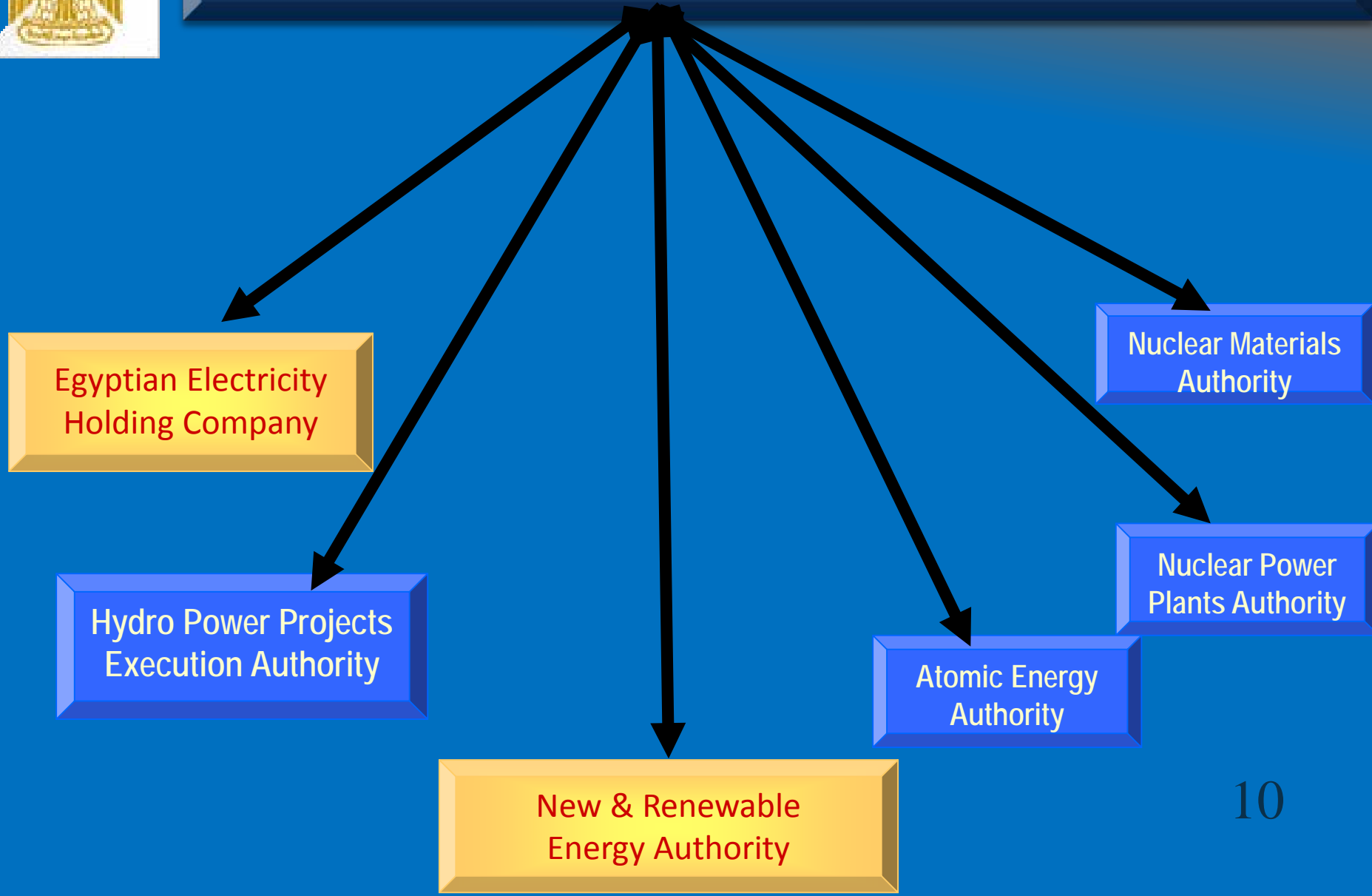
-No. of households:

about 23.5 Million in 2018 “Estimates of CAPMAS”

* CAPMAS: Central Agency for Public Mobilization and Statistics



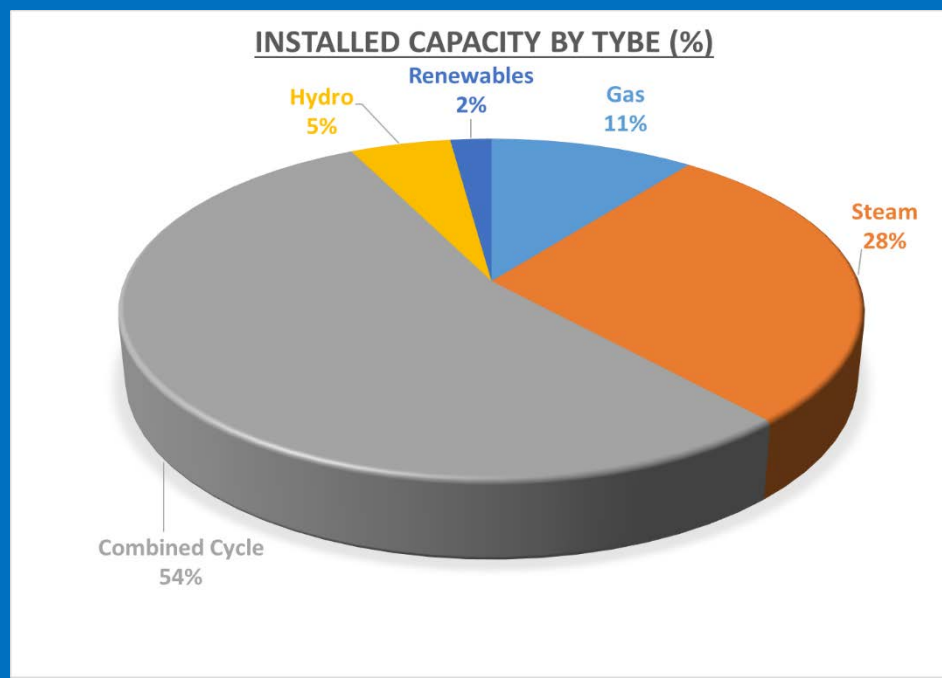
ORGANIZATION CHART OF MINISTRY OF ELECTRICITY & RENEWABLE ENERGY



Current profile of the electricity Sector

➔ The total installed capacity reached **55213 MW** in **2017/2018** compared to **45111 MW** in **2016/2017** with a percentage rate of increase about **22.4 %**, Secured supply to **99%** of the population.

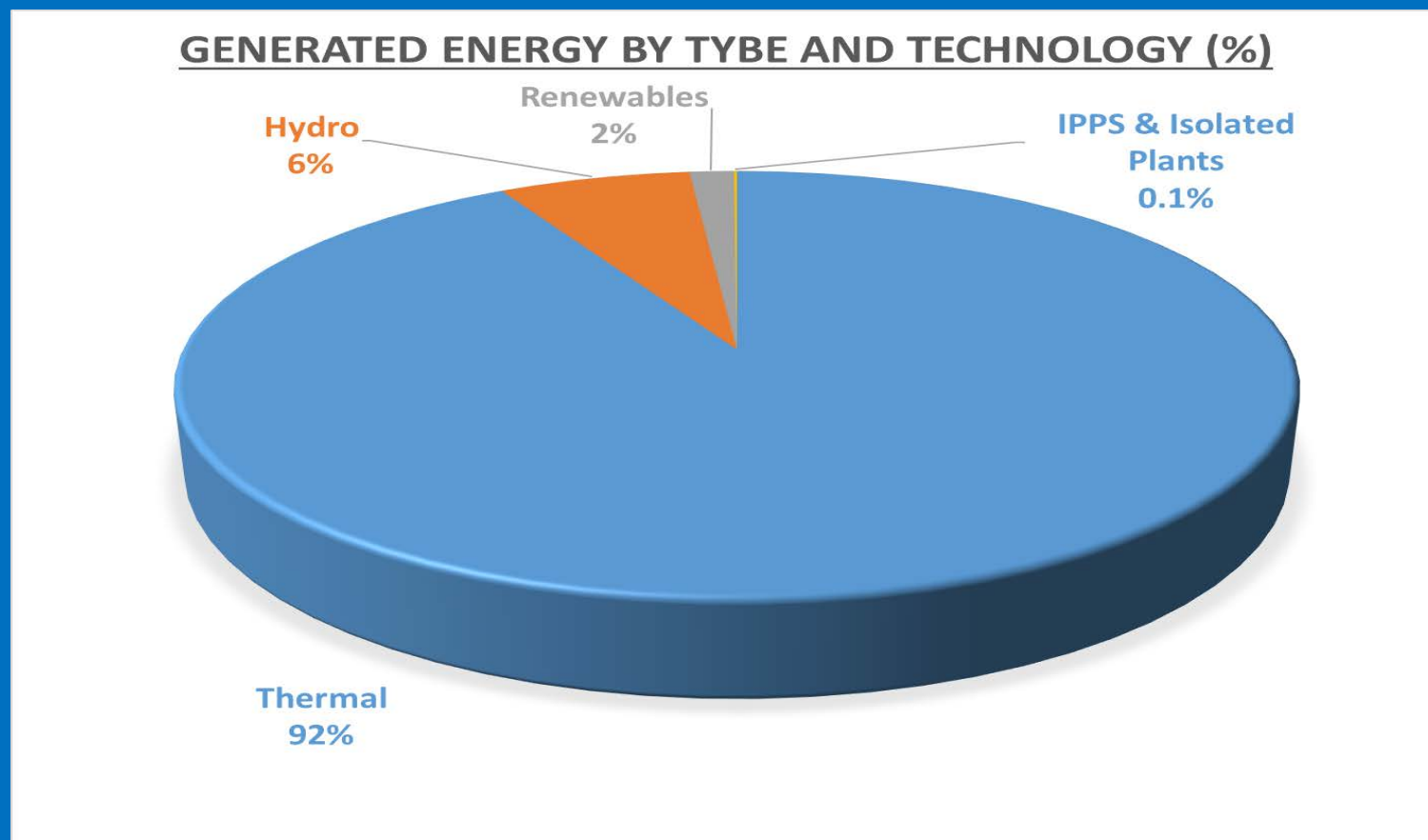
➔ The installed capacities in **30/6/2018** are distributed by type as follows:



Current profile of the electricity Sector (Cont.)



The generated energy in year **2017/2018** (**196760** GWH) is distributed by type and technology as follows:



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SUMMER 2014



Summer 2015



CAIROSCENE
WWW.CAIROSCENE.COM



Electrical Energy Reserves

Power reserve reached 5300 MW &
Maximum load reaches about 30800 MW
in 2018 “National Control Unit”.

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Current energy policy and measures

- The strategic vision of the electricity and renewable energy sector aims to develop the energy system which must be characterized by institutional efficiency and technological progress, be able to provide energy at competitive prices and environmental sustainability to improve the standard of living of the Egyptian people, leading to the provision of energy requirements and increasing the contribution of energy to economic growth.

Current energy policy and measures (Cont.)

- The overall polices of this strategy are:
 1. Energy efficiency Improvement
 2. Diversify sources of energy supply (Natural gas, nuclear power, coal & Renewable Energy resources,.....).
 3. Energy infrastructure development, transmission network, smart grid, Land, market.
 4. Encourage private sector participation in power supply

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a. Energy demand by sector

SECTORS (GWh)	06/2007	07/2008	08/2009	09/2010	10/2011	11/2012	12/2013	13/2014	14/2015	15/2016	16/2017	17/2018
INDUSTRIAL	34569	37045	37273	38916	40702	42098	39887	37320	38242	38310	41479	43623
AGRICULTURE	3789	4209	4617	4834	4927	5560	6230	6310	6555	6755	6743	7057
PUBLIC UTILITIES	10881	11139	11696	12605	11945	12547	12114	11654	11691	11812	11510	11660
COMMERCIAL & OTHERS	7046	8240	8754	9674	10238	10715	14605	17392	18851	18788	18585	19179
RESIDENTIAL	36596	40271	43811	47431	51370	56664	59757	61962	64546	73361	64126	66809
GOVERNMENTAL	5562	5691	5563	5443	5977	6385	7664	8297	6062	6292	8630	8562
Total CONSUMPTION	98443	106595	111714	118903	125159	133969	140257	142935	145947	155318	151073	156890

The Average for Industry sector 28% & for Houses 42%

b. Demand and supply by energy

Year	Demand GWh	Supply GWh
2007/2008	106595	125129
2008/2009	111714	131040
2009/2010	118903	139000
2010/2011	125159	146796
2011/2012	133969	157406
2012/2013	140257	164628
2013/2014	142935	168050
2014/2015	145947	174875
2015/2016	155318	186342
2016/2017	151073	189550
2017/2018	156890	196760

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The Average for Demand increase= 5% & for Supply = 6%

c. Electrical Energy Prices

The following table illustrates the electricity tariff and the service charge for different purposes of consumption for FY2017/2018.

Purpose of using	Demand Charge (2) Pound/ KWh	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) K.v					
Kima	-	-	30.0		35
Metro- Ramses	-	-	40.0		
Intensive industries (1)	30.0	67.6	62.4	93.6	
High Voltage (66,33) K.v					
Metro- Ramses	-	-	40.0		35
Heavy industries (1)	40.0	70.9	65.4	98.2	
Medium Voltage(22,11) K.v					
all Consumers	50.0	76.7	70.8	106.2	35
Water and sanitation companies		90.0			
Low Voltage(380 V)					
Irrigation	-	35.0	-	-	4
Water and sanitation companies		90.0			
Other Consumers	-	90.0	-	-	15
Public Lighting	-	105.0	-	-	

* Prices are based on Power Factor 0.92

* Energy-intensive industries include: iron, copper, cement, fertilizers, aluminum, petrochemicals, in addition to SUMED Company.

* The demand charge is based on the maximum demand of a consumer recorded over 3-month period.

* The ToU tariff is applied in accordance with the smart meter application program, and the peak hours duration is 4 hours starting at a time defined by the Ministry of Electricity & Renewable Energy.

* In case there are no meters, the applied tariff is the average energy price.

Electrical Energy Prices (cont.)

Residential

Electricity Selling Prices		Customer Service	
Sliced consumption (KWh/m)	P/KW.h	Sliced Consumption (KWh/m)	Customer Service Charge Pound/cons/m
0 - 50	13	0 - 50	1
51 - 100	22	51 - 100	2
0 - 200	27	101 - 200	6
201 - 350	55	201 - 350	11
351 - 650	75	351 - 650	15
651 - 1000	125	651 - 1000	25
Zero - more than 1000	135	More than 1000	40
		Zero Read	9

Commercial

Electricity Selling Prices		Customer Service	
Sliced consumption (KWh/m)	P/KW.h	Sliced Consumption (KWh/m)	Customer Service Charge Pound/cons/m
0 - 100	45	0 - 100	5
0 - 250	84	101 - 250	15
0 - 600	96	251 - 600	20
601 - 1000	135	601 - 1000	25
Zero - more than 1000	140	More than 1000	40
		Zero Read	9

Energy Prices (More than 1000KWh):

Year	Price/KWh (Piaster)	%
2001/2002	25	---
2002/2003	26	4%
2003/2004	25	-4%
2004/2005	25	0%
2005/2006	21	-16%
2006/2007	21	0%
2007/2008	38	81%
2008/2009	48	26%
2009/2010	48	0%
2010/2011	48	0%
2011/2012	57	19%
2012/2013	67	18%
2013/2014	70	4%
2014/2015	74	6%
2015/2016	78	5%
2016/2017	85	7%

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5. Outlook of energy demand and supply (2050)

Year	Demand – GWh	Supply – GWh
2016/2017	199995	214978
2017/2018	214535	230456
2018/2019	230131	247049
2019/2020	246862	264837
2020/2021	264809	283905
2021/2022	284061	304346
2022/2023	3044712	326259
2023/2024	326864	349749
2024/2025	350627	374931
2025/2026	376118	401926
2026/2027	403462	430865
2027/2028	432793	461887
2028/2029	464257	495143
2029/2030	498009	530794
2030/2031	534214	569011
2031/2032	573052	609980
2032/2033	614712	653898
2033/2034	659402	700979
2034/2035	707341	751449
2035/2036	758764	805554
2036/2037	813926	863553
2037/2038	873099	925729
2038/2039	926573	991382
2039/2040	100466	1093833
2040/2041	107770	1140429
2041/2042	115605	1222540
2042/2043	124009	1310563
2043/2044	133024	1404928
2044/2045	142695	1506078
2045/2046	153069	1614516
2046/2047	164198	1730761
2047/2048	176135	1855376
2048/2049	188940	1988963
2049/2050	202676	2132168

5. Outlook of energy demand and supply (2050) **(Cont.)**

The Average for Demand & Supply
increase= 7%

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6. Energy-related investment for domestic and overseas:

Total direct target investments to the electricity sector and renewable energy plan 2016/2017:

Sector	Amount - MILL EGP
Government agency	958.7
Economic Entities	6859.5
Public companies	55511.1
Private sector	35
Total	63364.3

6. Energy-related investment for domestic and overseas:

Government and economic entities target investments at the electricity and renewable energy sector 2016/2017 according to sources of funding:

Type	Amount	%
Foreign Loans	1948.9	24.93%
Reserves and provisions - local	972.7	12.44%
National Investment Bank - Local	198.3	2.54%
State Treasury – Local	690	8.83%
Local Loans	271.5	3.47%
Other sources	3736.8	47.80%
Total	7818.2	100.00%

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7. Major difficulties and bottlenecks currently faced in formulating energy policies:

- Non-standardization of data published by working entities in the energy sector.
- Lack of historical data sufficient to analyze the situation and understand the problems and predict what will happen in the future.
- Increase the interest rates, especially for domestic loans, raises the investment cost of the projects.
- Lack of local manufacturing, which increases the percentage of foreign loans.
- Non-participation of the private sector as planned
- Lack of open market mechanisms for selling energy.
- Weak infrastructure, Leads to increase the financial cost of the plan.
- Lack of required coordination between the parties which working in the field of energy strategy implementation & follow up process.
- Lack of plan follow up mechanism and develop solutions to avoid expected problems.

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- Plan follows up mechanisms, Scenarios to avoid future problems.
- Process to encourage private sector to participate in the implementation of the planned projects.
- Finance average cost for energy projects in Japan & other world country.
- Is it better to have one Entity for all energy projects (gas, carbon, nuclear... and renewable energy)?
- Learn about Japanese success experience.

Thank You

