



COUNTRY REPORT

Egypt

Course : Energy Policy (B)

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General information

- **No. of Households:** 25 million
- **Land Area:** 1,001,000 km²
- **Avg. temperature:** 28° C (82° F)
- **Language:** Arabic , English
- **GDP per capita (2019):** \$3,548
- **Population:** 103,484,691
- **Main exports:** Petroleum materials,
Natural Gas and
Agricultural Crops



Under supervision of the Regulator

(The Egyptian Electric Utility and Consumer Protection Regulatory agency)





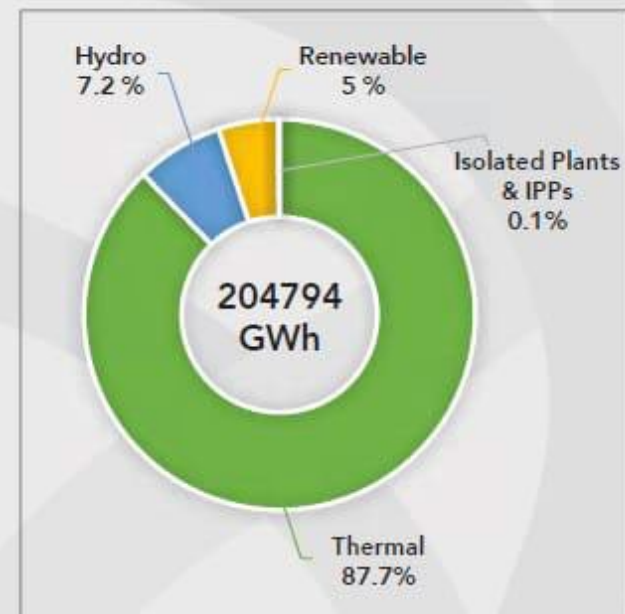
The Egyptian Electric Utility and Consumer Protection Regulatory Agency (“Egypt ERA”) is an independent government agency established by law, empowered to regulate, supervise and develop electricity generation, consumption, transmission and distribution.

Sources of Generated Energy

Generated and Purchased Energy*

By Generation Type (GWh)

Type		2019/2020	2020/2021	Variation%
Steam	Subsidiaries	43839	41037	(6.4)
	Private Sec.	11408	11188	(1.9)
Gas	Subsidiaries	3464	2733	(21.1)
Combined Cycle	Subsidiaries	73367	72951	(0.6)
	EEHC Stations	41422	51757	24.9
Total Thermal*		173500	179666	3.6
Hydro		15038	14769	(1.8)
New & Renewable	Wind	4233	5257	24.2
	Solar	4430	4945	11.6
Total Grid		197201	204637	3.8
Isolated Units & Reserve		136.4	133	(2.6)
Purchased from IPPs		19.5	24	20.5
Grand Total*		197357	204794	3.8



Development in Installed Generation Capacities by generation type (MW)

Description	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021
Gas	13345	5745	4055	4055	3343
Steam	15449	15449	16749	17179	17179
Combined Cycle	12630	30030	32470	32448	32448
Hydro	2800	2832	2832	2832	2832
Renewables	887	1157	2247	3016	3016
Total (MW)	45111	55213	58353	59530	58818

Development in Generated and Purchased Energy*

Description	2019/2020	2020/2021	Variation %
Generated and Purchased Energy (GWh)	197357	204794	3.7



* Including Commissioning tests, private sector, isolated power plants and energy purchased from industrial companies.

Installed Capacity and Energy Generated from Isolated and Reserve Units

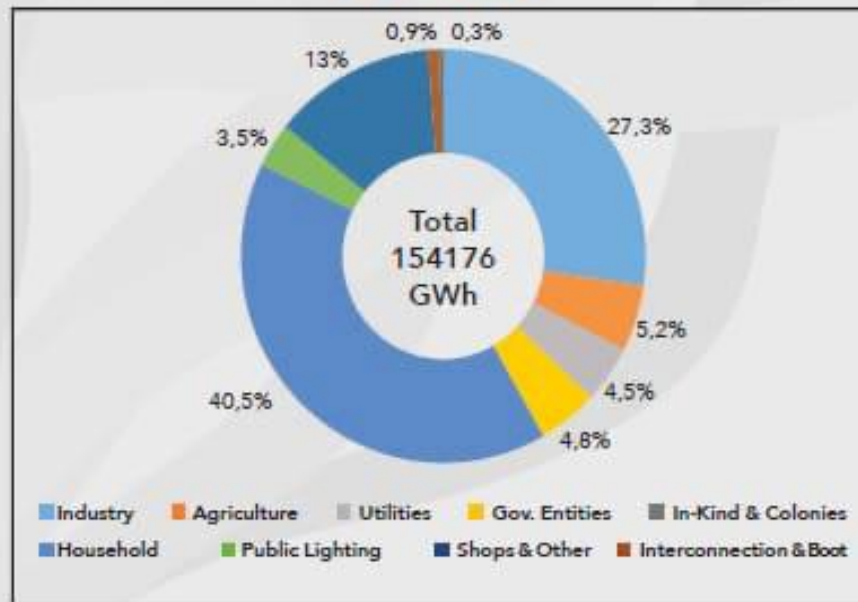
Company	Type	Installed Capacity (MW)		Energy Generated (GWh)		Energy Sent (GWh)	
		2019/2020	2020/2021	2019/2020	2020/2021	2019/2020	2020/2021
Canal	Diesel fuel	122.0	108.0	51.5	34.1	50.7	33.9
	Solar	14.0	14.0	4.97	10.4	4.97	10.4
Beheira	Diesel fuel	30.6	33.9	34.9	42.5	33.5	40.8
	Solar	10.2	10.3	11.2	11.9	11.2	11.9
Middle Egypt	Diesel fuel	23.4	41.8	27.5	28.8	26.4	27.6
	Solar	6.2	6.3	6.3	5.3	6.3	5.2
Upper Egypt	Diesel fuel	2.9	2.9	0	0	0	0
Total	Diesel fuel	178.9	186.6	113.9	105.4	110.7	102.3
	Solar	30.4	30.5	22.5	27.5	22.5	27.5
	Diesel fuel & Solar	209.3	217.2	136.4	132.9	133.1	129.8

_ The total consumed fuel amounted to 25.6 K toe.

Quantities of Sold Energy According to Purposes (2020/2021)

Type of Usage	Distribution Companies		Transmission Company		TOTAL	
	Quantity GWh	Percentage (%)	Quantity GWh	Percentage (%)	Quantity GWh	Percentage (%)
Industry	20713	16.3	21410	78	42123	27.3
Agriculture	6574	5.2	1349	4.9	7923	5.2
Utilities	6264	4.9	602	2.2	6866	4.5
Gov. Entities	7360	5.8	112	0.4	7472	4.8
Household	62393	49.2	0	0	62393	40.5
Public Lighting	5463	4.3	0	0	5463	3.5
Shops & Others	17953	14.3	2069	7.5	20022	13.0
Interconnection Countries & BOOT	0	0	1427	5.2	1427	0.9
Outgoing energy in kind & colonies	0	0	487	1.8	487	0.3
Grand Total	126720	100	27456	100	154176	100

2020/2021



Environmental Indicator

Development in Environmental Indicator



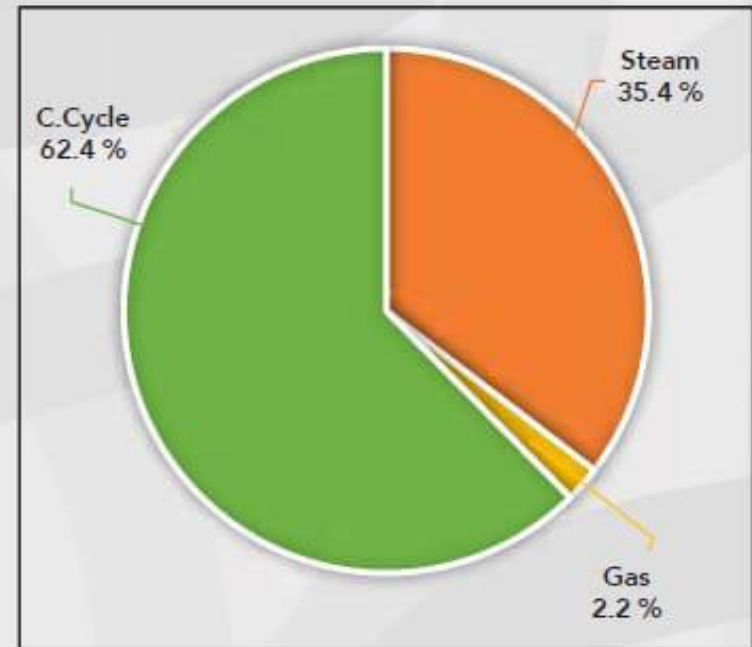
The environmental indicator of thermal power plants reached 367.58 tons CO₂/GWh in 2020/2021, and this is due to:

- Increasing the share of new and renewable energies (wind / solar / hydro) in the generation mix to reach 12.2% of the total generated energy in 2020/2021.
- The increase in the natural gas participation rate to 98.2% of the total fuel consumption.
- The total fuel consumption rate improved to 180.4 gm/KWh in 2020/2021 for the following reasons:
 - Operation of the power plants of the Holding Company (Burullus / Beni Suef / New Capital) characterized with their high efficiency and low fuel consumption rates, and the increase in their percentage rate in the total energy generated to 25.3%.
 - The increase in the participation rate of the combined cycle generation in the production companies, including the power plants of the Holding Company, to reach 61% of the total generated energy.
 - Operation of the steam plants operated at supercritical pressures with high efficiency and lower consumption rates, such as (Ain Sokhna, South Helwan, 9th Cairo West, and Assiut Walideya 3).



Fuel Consumption by Generation Type (k toe)

Type		2019/2020	2020/2021	Variation %
Steam	Subsidiaries	9865	9103	(7.7)
	Private Sec.	2445	2374	(2.9)
Gas	Subsidiaries	1002	714	(28.7)
Combined Cycle	Subsidiaries	12516	12403	(0.9)
	EEHC Plants	6305	7814	23.9
Total		32133	32408	0.9



* Including fuel for commissioning tests.

Evaluation for the presence of an impact of COVID-19 on energy demand and supply in 2021

- COVID-19 has caused great challenges to the energy industry. Potential new practices and social forms being facilitated by the pandemics are having impacts on energy demand and consumption.
- A recent analysis of the electricity consumed by several countries since the COVID-19-related lockdown orders reveals a significant reduction in electricity demand

Electricity Tariff Prices In Egypt

Consumption in KW	Tariff
0 - 50	48
51 - 100	58
0 - 200	77
201 - 350	106
351 - 650	128
0 - 1000	128
Above 1000	145

Subjects I would like to learn....

1. The Development in the Energy policy Field.
2. The challenges and problems facing Japan in this Field and how to deal with them.
3. How to benefit from the Japanese scientific Progress and Implementation.
4. Insights into the methodology used to collect and analyze energy statistics data.
5. Energy modeling by building practical scenarios for Energy Policy.
6. Determining the opportunities and challenges associated with green energy.

Thank You for your attention!



وزارة الكهرباء والطاقة المتجددة
Ministry of Electricity and Renewable Energy

