



# Electricity Tariff Subsidy Reduction

## The Case of Egypt

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- EgyptERA



**Workshop: International Experience on Energy Tariff Reforms**

April 19, 2023 | Tashkent, Uzbekistan

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- Market structures
- Tariff reform
- Motivations for tariff reform
- Tariff reform process
- Tariff reform results
- Social considerations and customer affordability
- Communication Strategy
- Lessons learnt from the tariff reform(Recommendation)

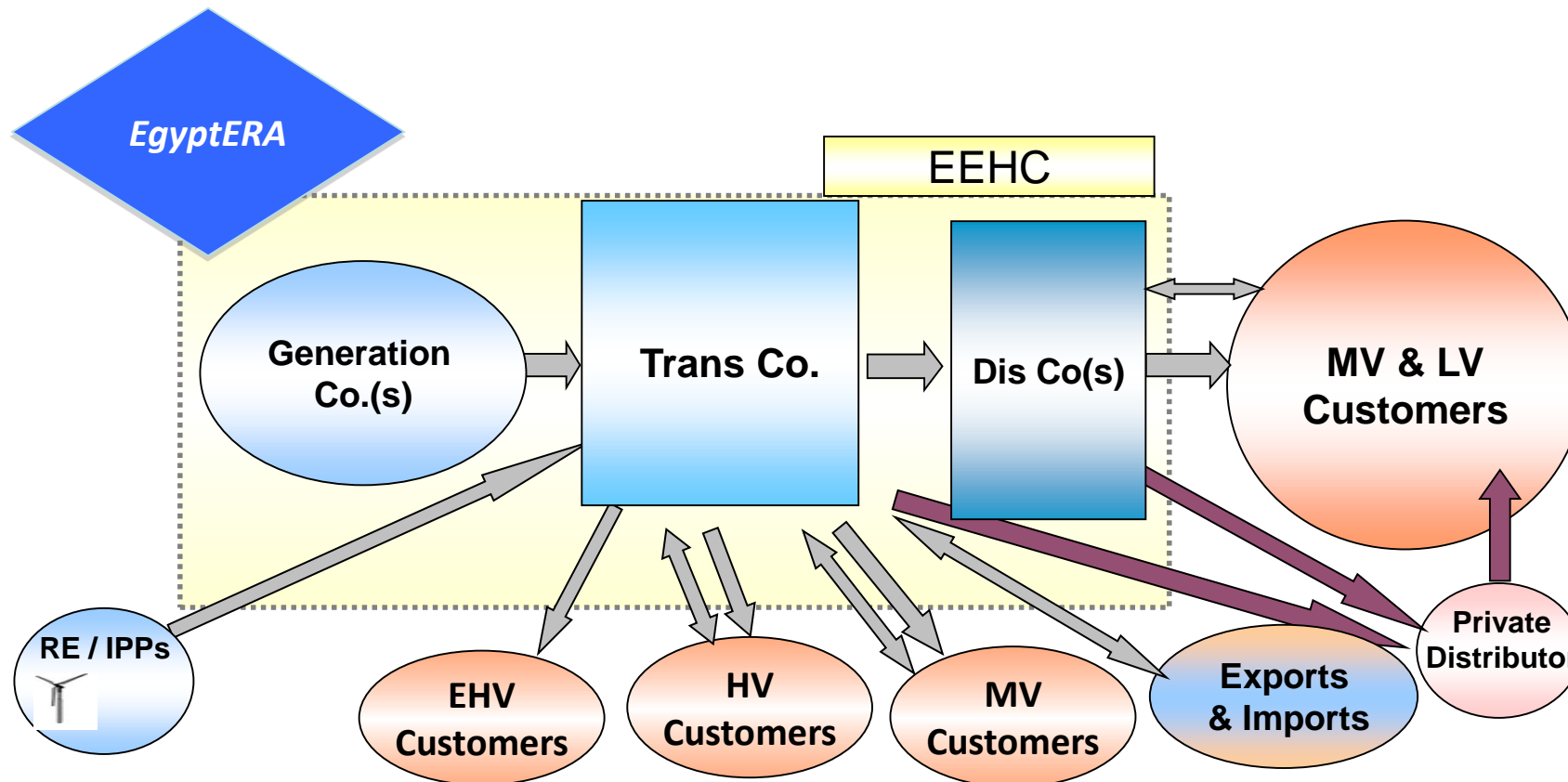
# Market structures



# Current Structure of the Egyptian electricity market



Currently the Egyptian electricity market is a single buyer model



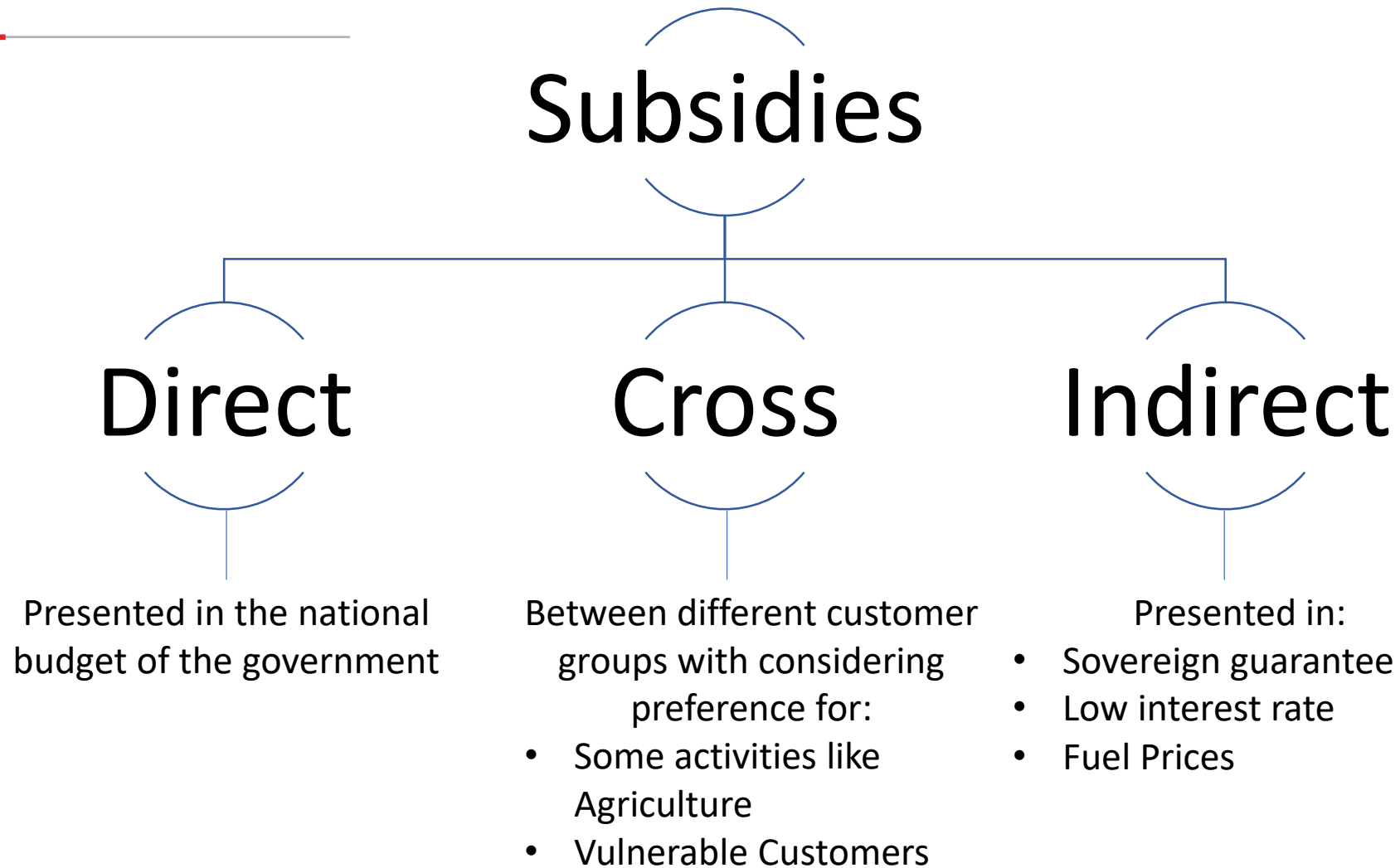
- The Peak Demand for the year 2021-2022 was **33800 MW**
- The Total Energy Generated was **214051 GWh** of which **4.9%** was generated from renewable energy resources

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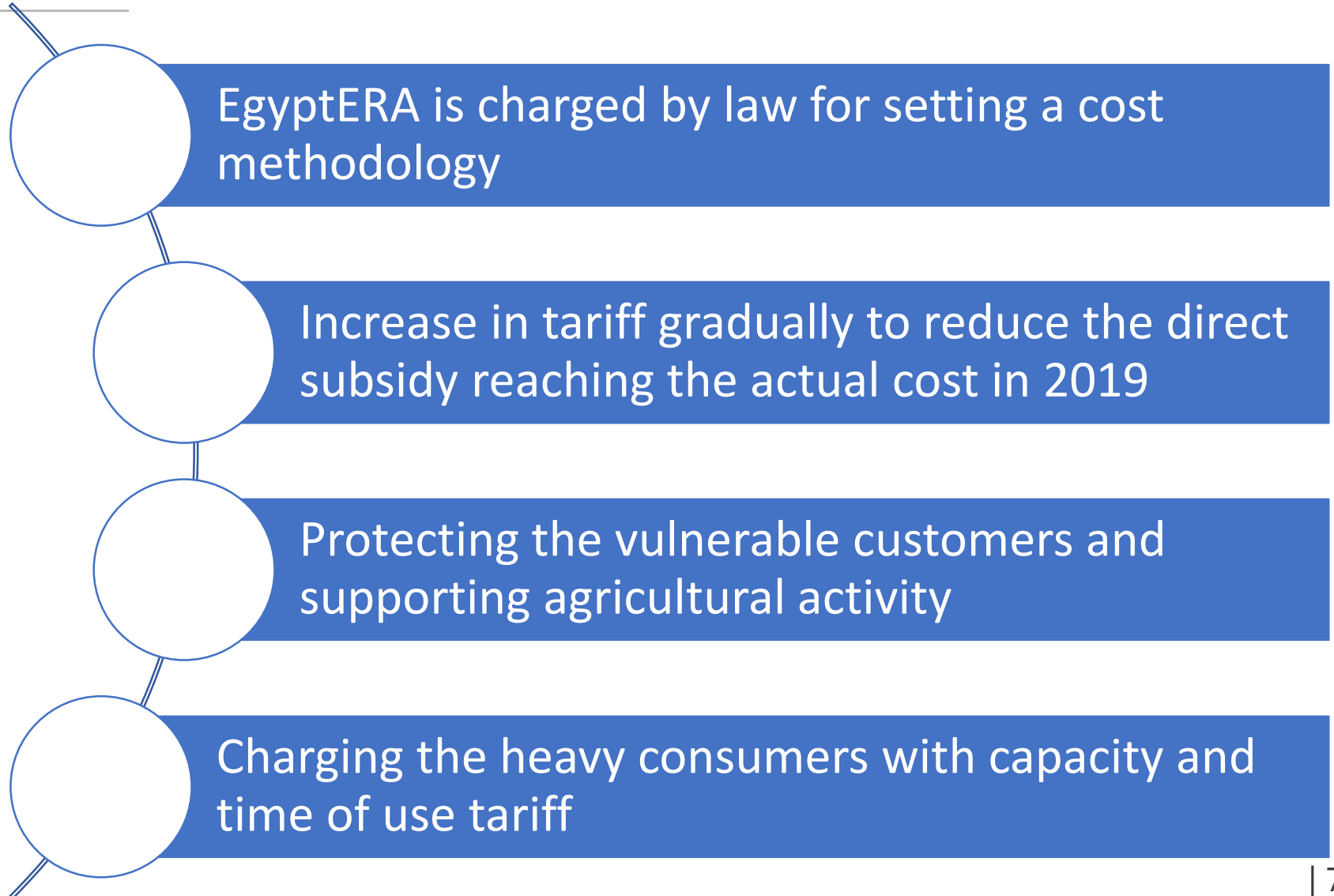
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# Subsidies Indication

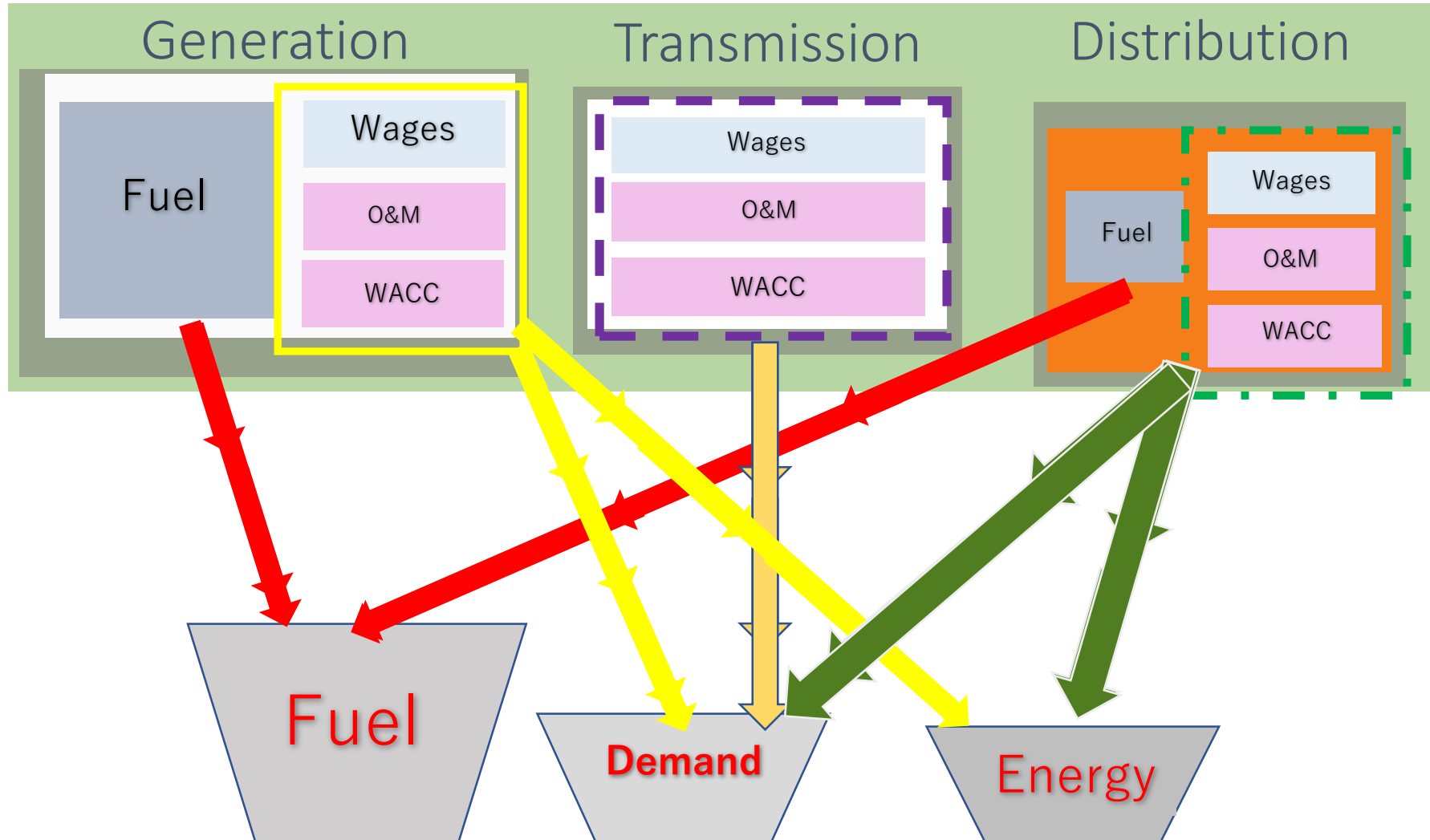


# Tariff Reform steps

*Starting 2014  
Egypt begun  
a tariff  
reform plan  
with the  
announcing  
of 5 year  
tariff plan  
until 2019*



# Tariff cost recovery trajectories





# Tariff Reform



- ✓ 5 year Tariff reform plan was developed starting 2014 to 2019 with a fixed cost.



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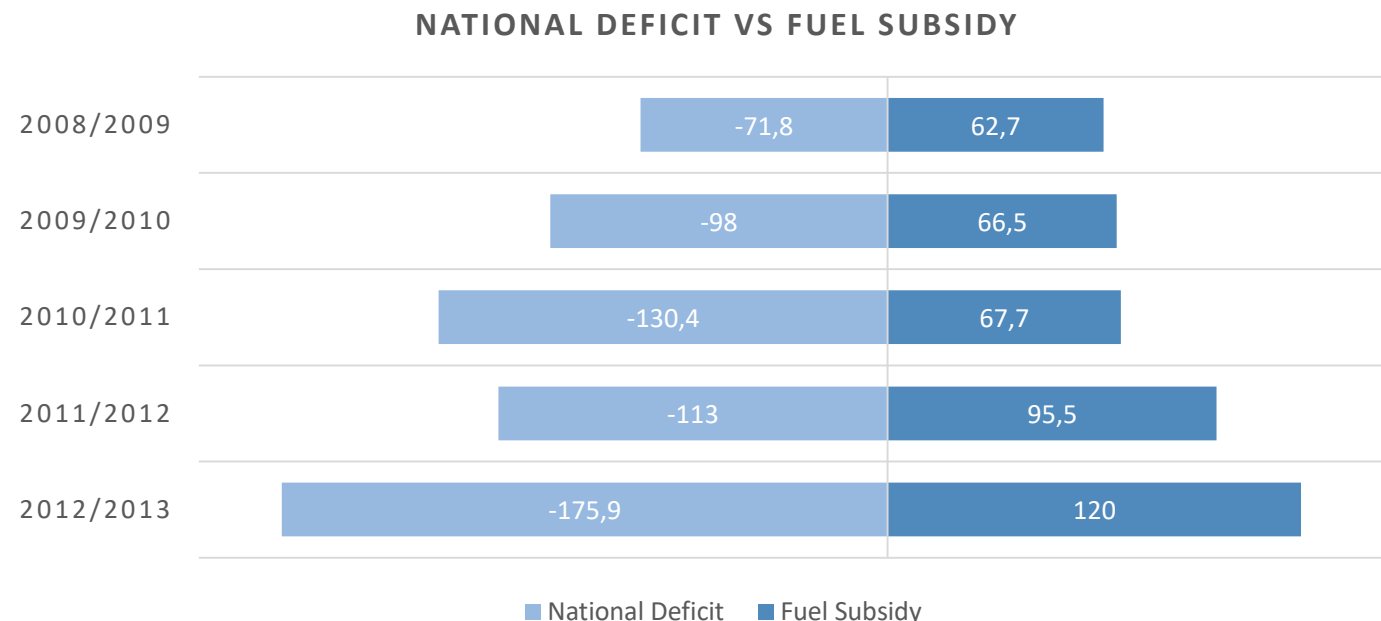
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# Motivations for tariff reform



- For the period from 2008 to 2013 the Egyptian government spends on fuel subsidy closely matched the worsening of the national budget deficit
- For instance during the Financial Year 2012/2013

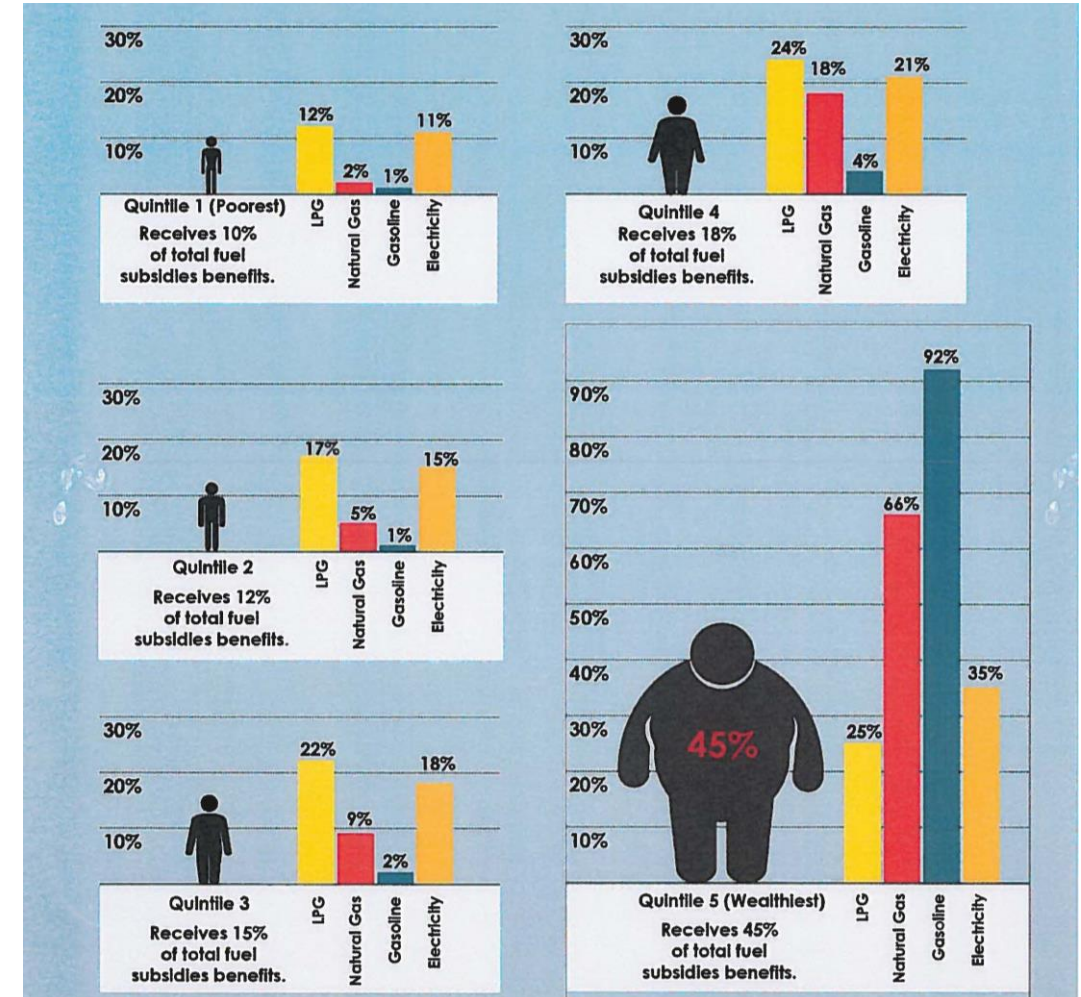
The Egyptian government has spent on the subsidy the same value that has been spent on education, health and infrastructure combined



# How subsidies were distributed



- The more energy you consume, the more you benefit from subsidies.
- That means that wealthier consumers receive more of the subsidy than poorer consumers



# Motivations for tariff reform



- Shortage in power generation capacity.
  - Major delays in completion of power projects under implementation.
  - Lack of maintenance.
  - Shortage of fuel supply.

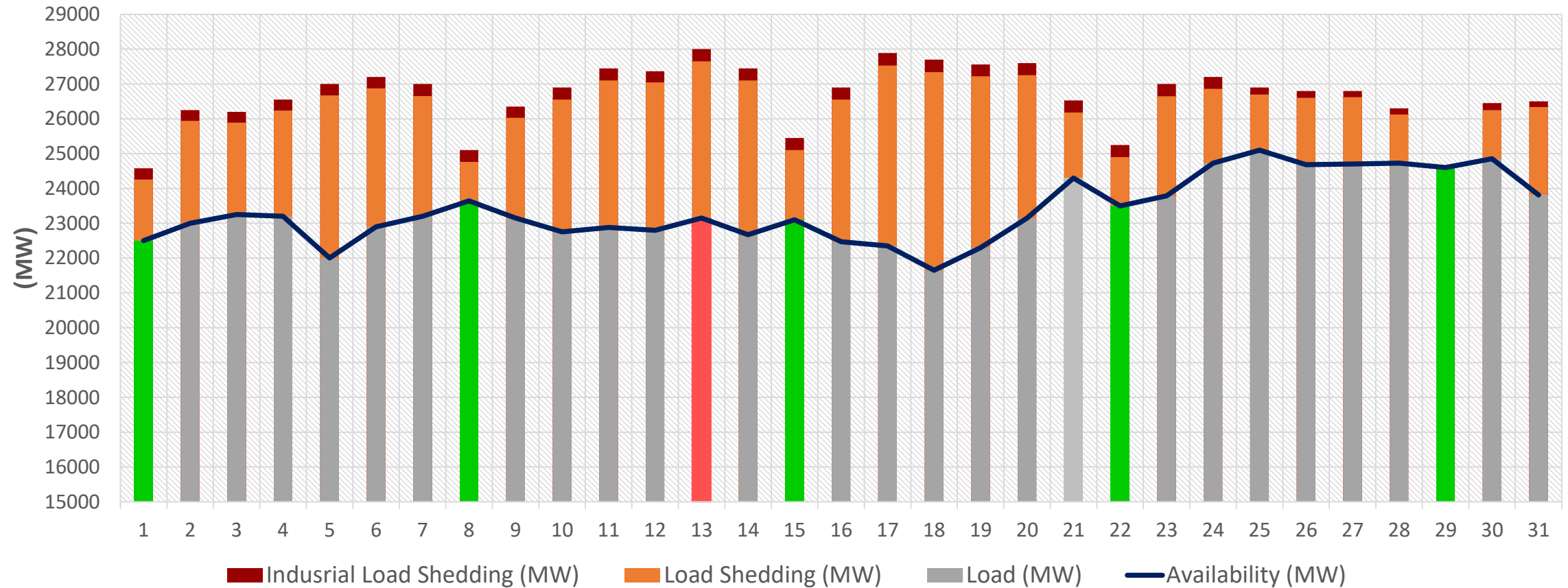


- Growing energy demand and high energy intensity.
- Unsustainable financial burden due to subsidies

# Shortage of Power Supply



August 2014



**Peak Load at August 2014 (Included Shedding): 28000 MW**

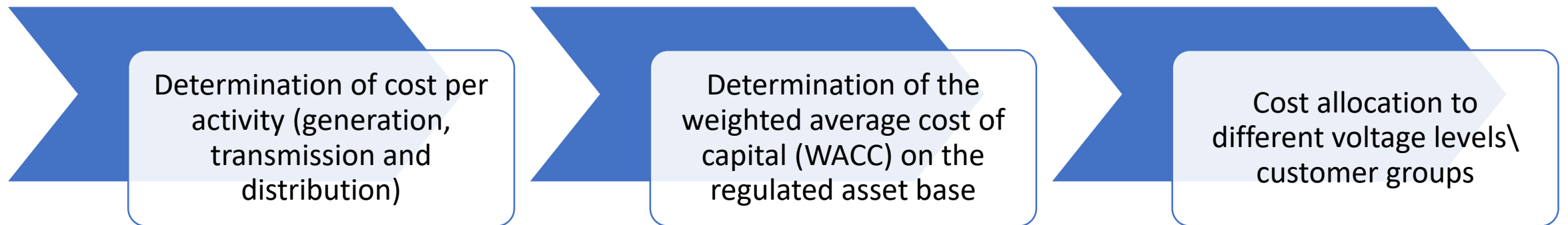
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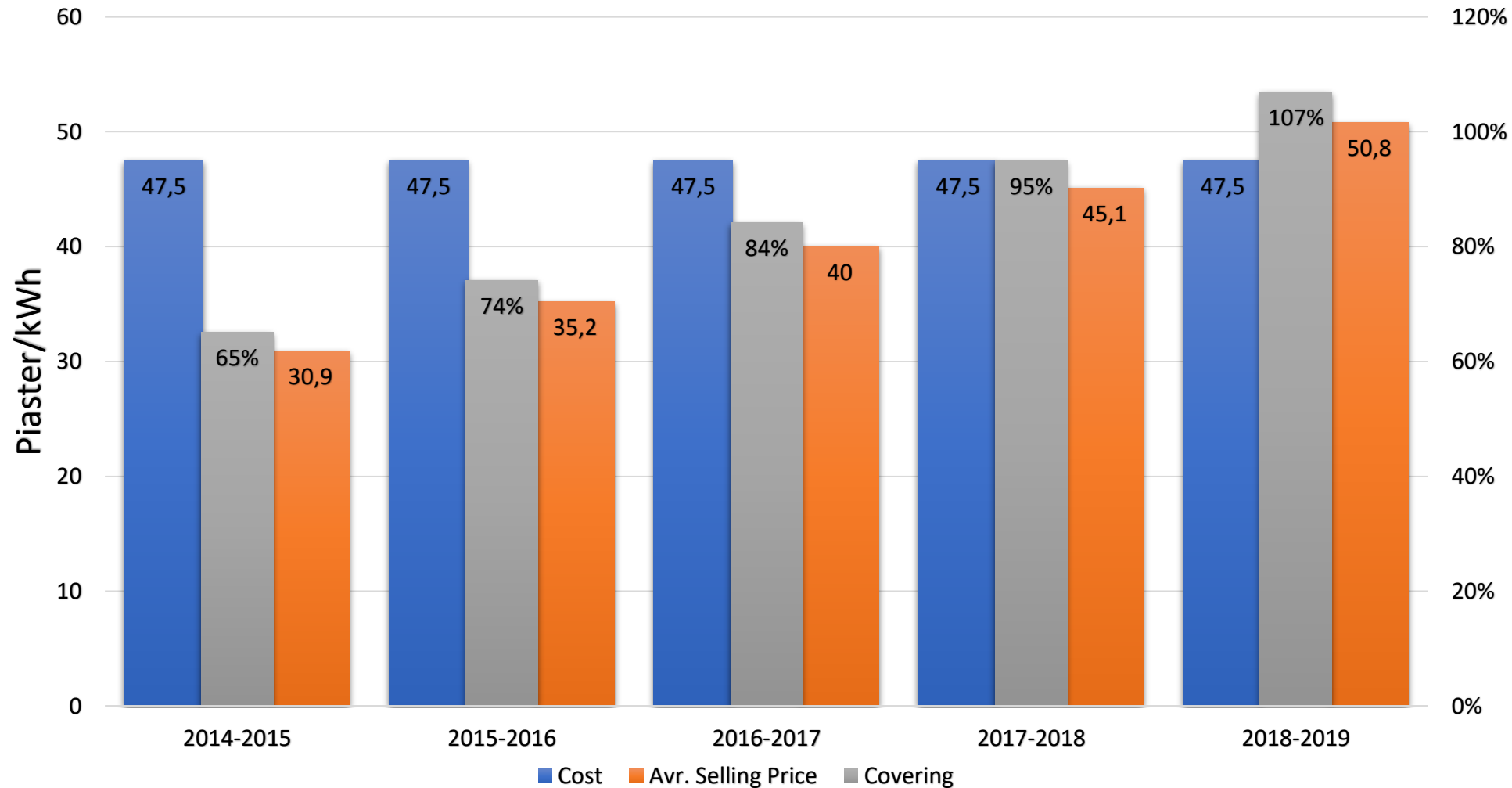
# Tariff reform process

A Cost of Service methodology was developed by EgyptERA through public consultation to ensure the acceptance of it from the market players, and after approved by the cabinet of ministries that covers:



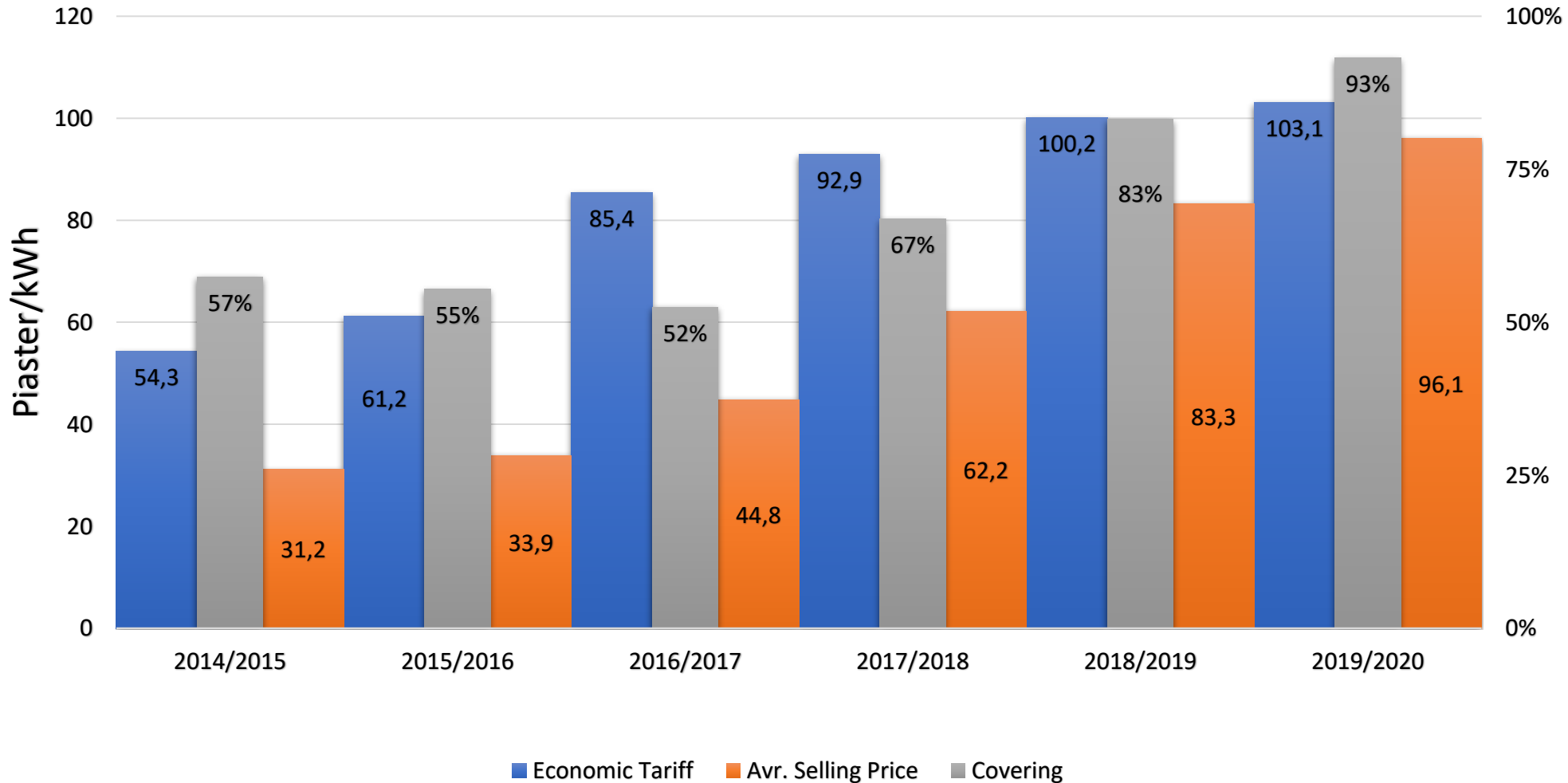


# Electricity tariff restructuring plan in Egypt 2014-2019 (Planned)



**Based on an  
exchange rate  
7EGP/USD**

# Electricity tariff restructuring plan in Egypt 2014-2019 (Actual)



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# Tariff reform results

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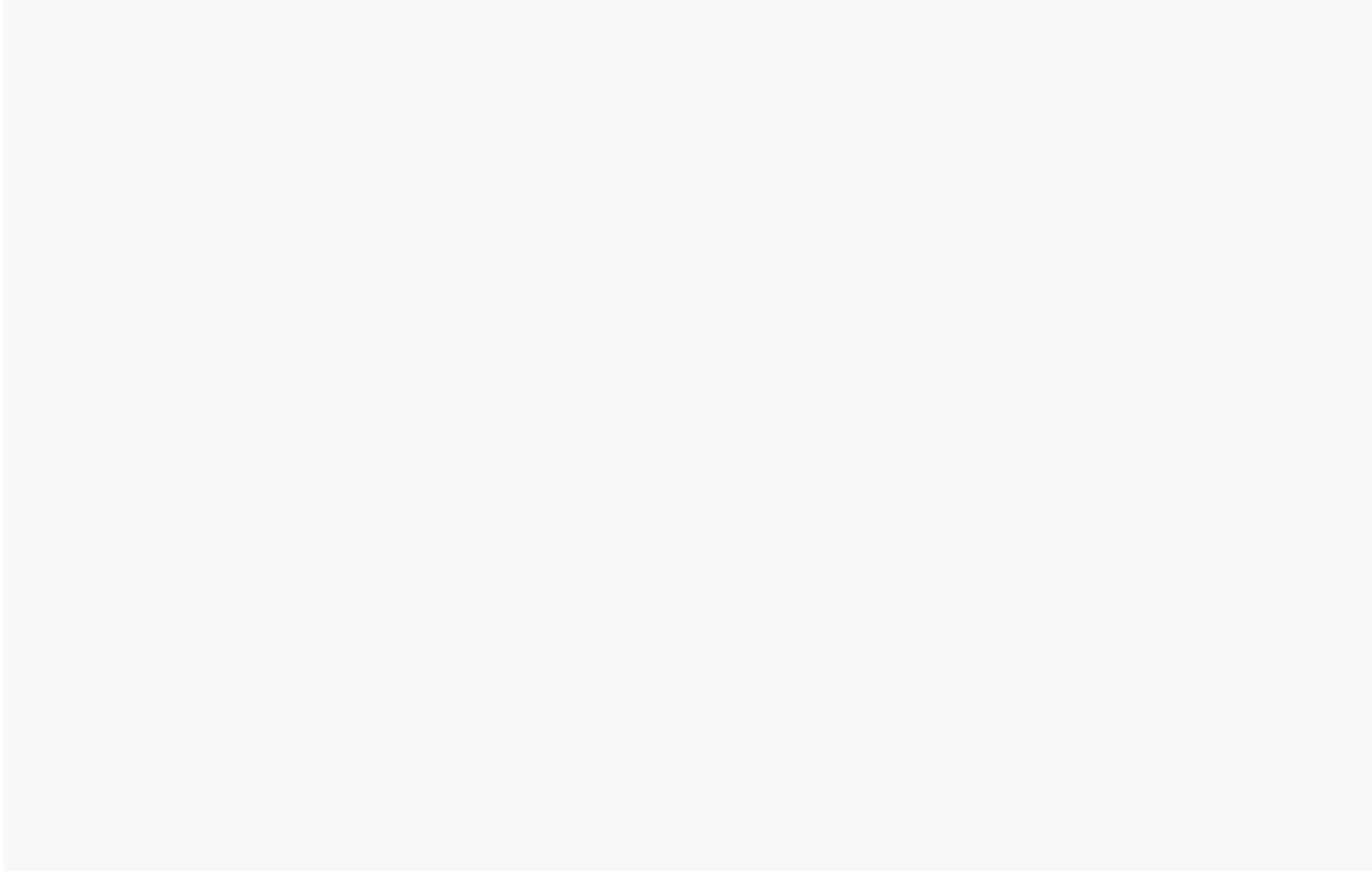
***“Impact entails results beyond just increasing tariffs”***

# Tariff reform results

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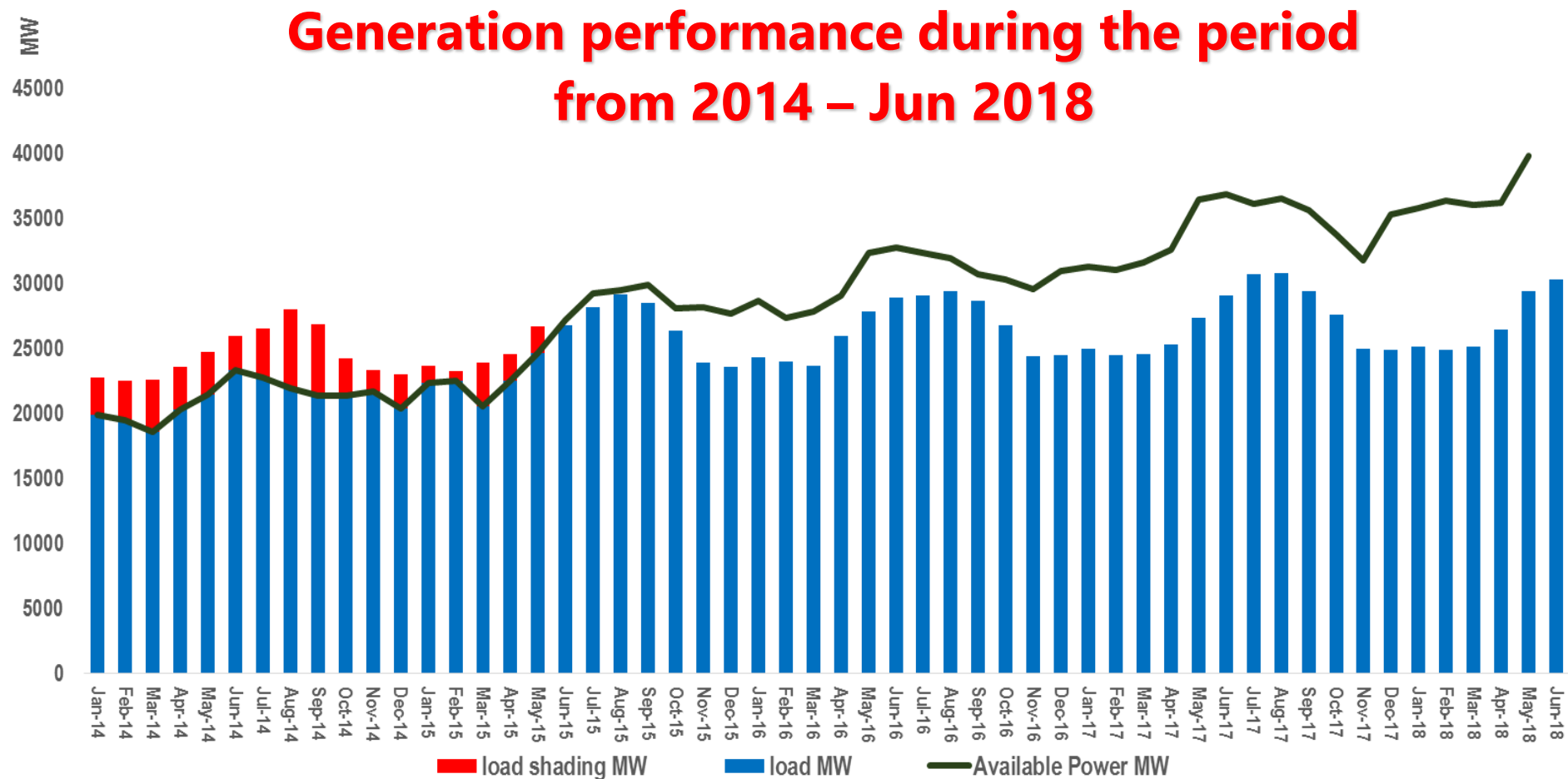
- Direct Subsidy from national budget improved



# Tariff reform results



- Power generation performance improved



# Tariff reform results



## Mega Project Power Plants in cooperation with SIEMENS Company

- The Egyptian Electricity and Renewable energy Sector Signed a contract with SIEMENS company for establishing three Mega Power Plant Projects with **Total capacity of 14400 MW.**



# Benban Solar Park

## The Largest in the World



Signed PPA	32
Total Installed Capacity	1465
Total Area for Solar Park	37.1 Km Square
Total Investment	2 Billion \$
Workers and Job Creation	More than 10000

**BENBAN SOLAR PARK** Middle East  
**Forbes**

**37 SQUARE KM**  
LAND NEAR THE SOUTHERN CITY  
OF ASWAN, EGYPT

**WILL BE  
THE LARGEST**  
SOLAR POWER INSTALLATION  
IN THE WORLD

**\$653 MILLION**  
INVESTMENT FOR  
13 OF 32 PLANTS

MADE UP OF  
**32**  
INDIVIDUAL  
PLANTS

PROJECT SET TO LAUNCH  
**BY MID-2019**

**10,000**  
WORKERS WILL WORK  
ON THE SITE

**2 MILLION TONS**  
OF GREENHOUSE GAS EMISSIONS WILL BE SAVED ANNUALLY -  
THE EQUIVALENT OF TAKING **400,000** CARS OFF THE ROAD



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# Protection of vulnerable customers

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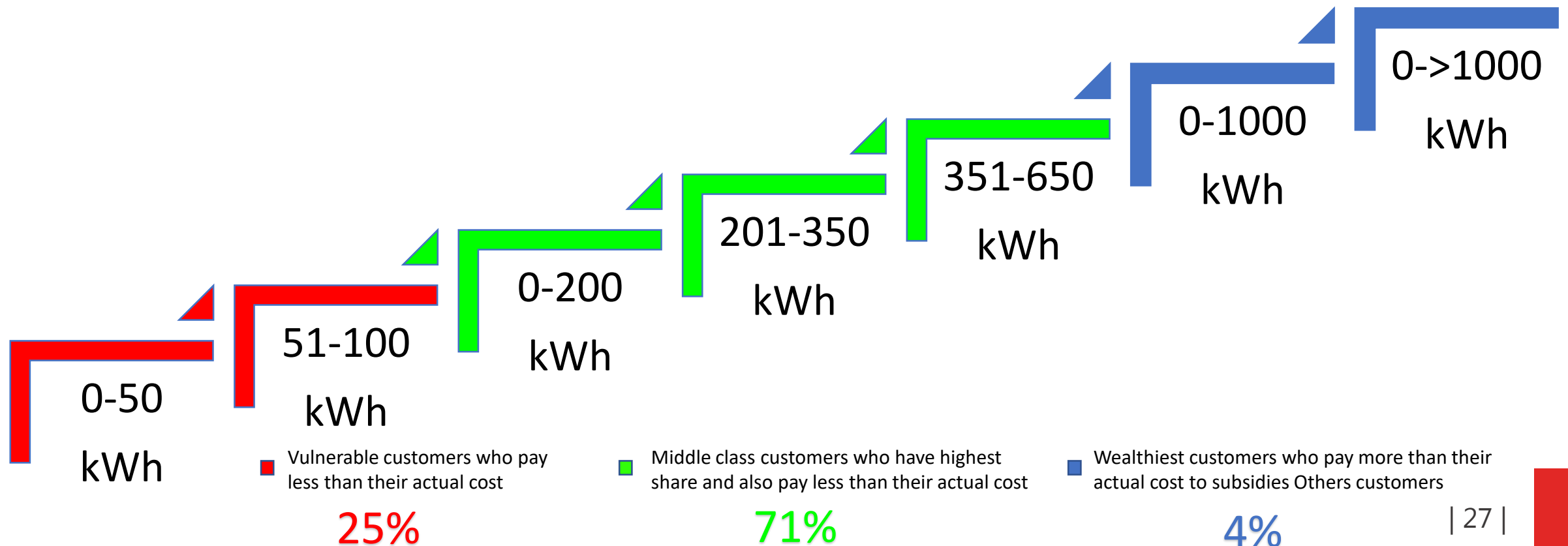


- An affordability study was prepared and attached with the five-year plan based on CAMPMAS income result and effective mechanisms for the protection of vulnerable customers was developed.
- The mechanism was designed to support those characterized as 'needy', so that the transition to cost-based energy tariffs and prices is socially acceptable.

# Protection of vulnerable customers



- Residential Tariff was divided into 7 blocks as follow and subsidies were directed to consumers whose consumption is less than 650 kWh /month.



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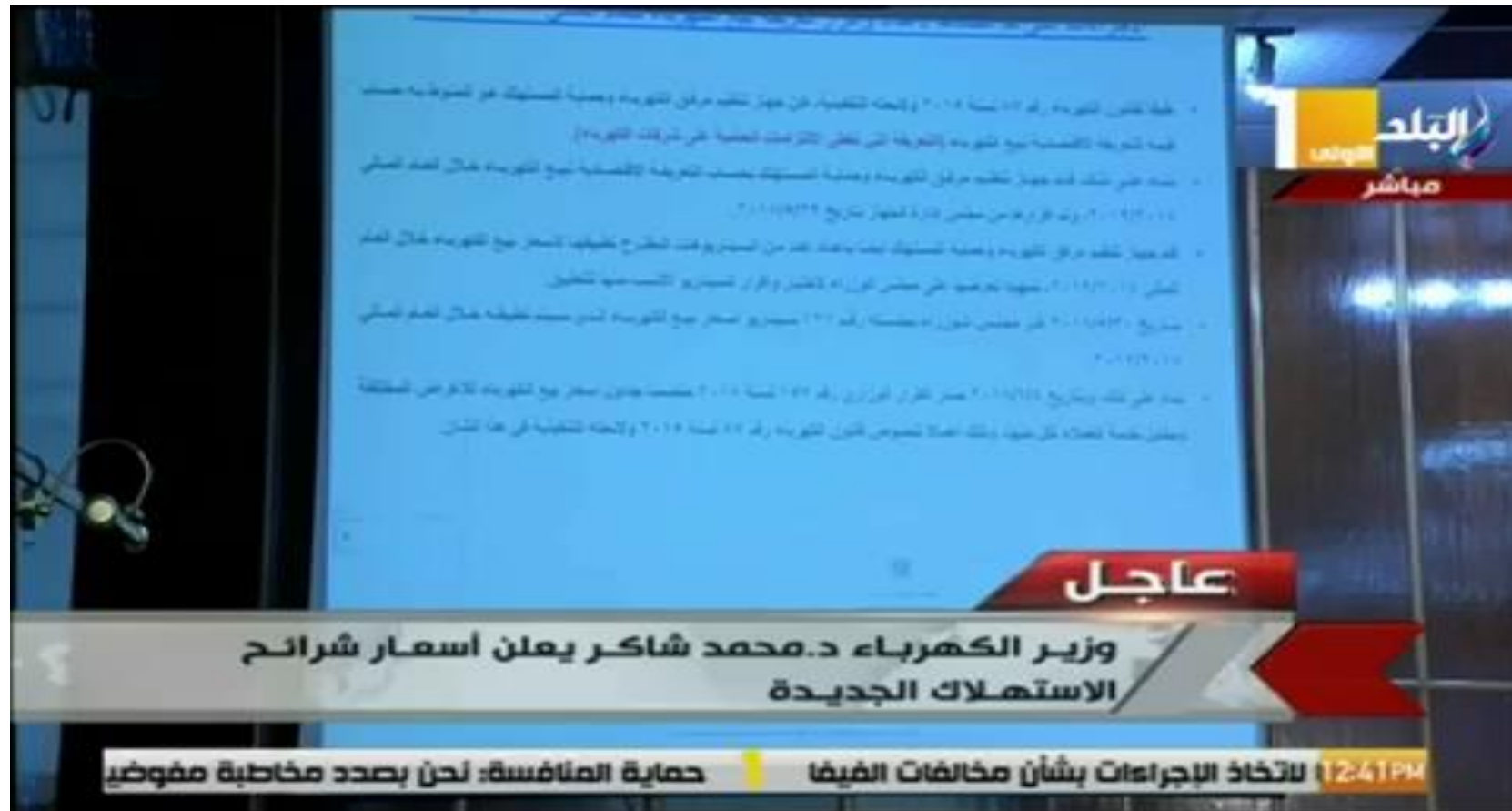
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# ***Communication with the Public***

# Communication with the Public



- Annual press conference



# Communication with the Public

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- Clear Announcement for Tariff plan using the following methods:
  - ✓ Official Gazette
  - ✓ EgyptERA Website ([www.egyptera.org](http://www.egyptera.org))
  - ✓ Android Application (calculate your bill <https://is.gd/buFrvE>)
  - ✓ Awareness campaigns (<https://www.facebook.com/Entael7al>)

# Communication with the Public

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- Awareness campaigns (***You are the solution***)





# Communication with the Public

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- Awareness campaigns



# Communication with the Public



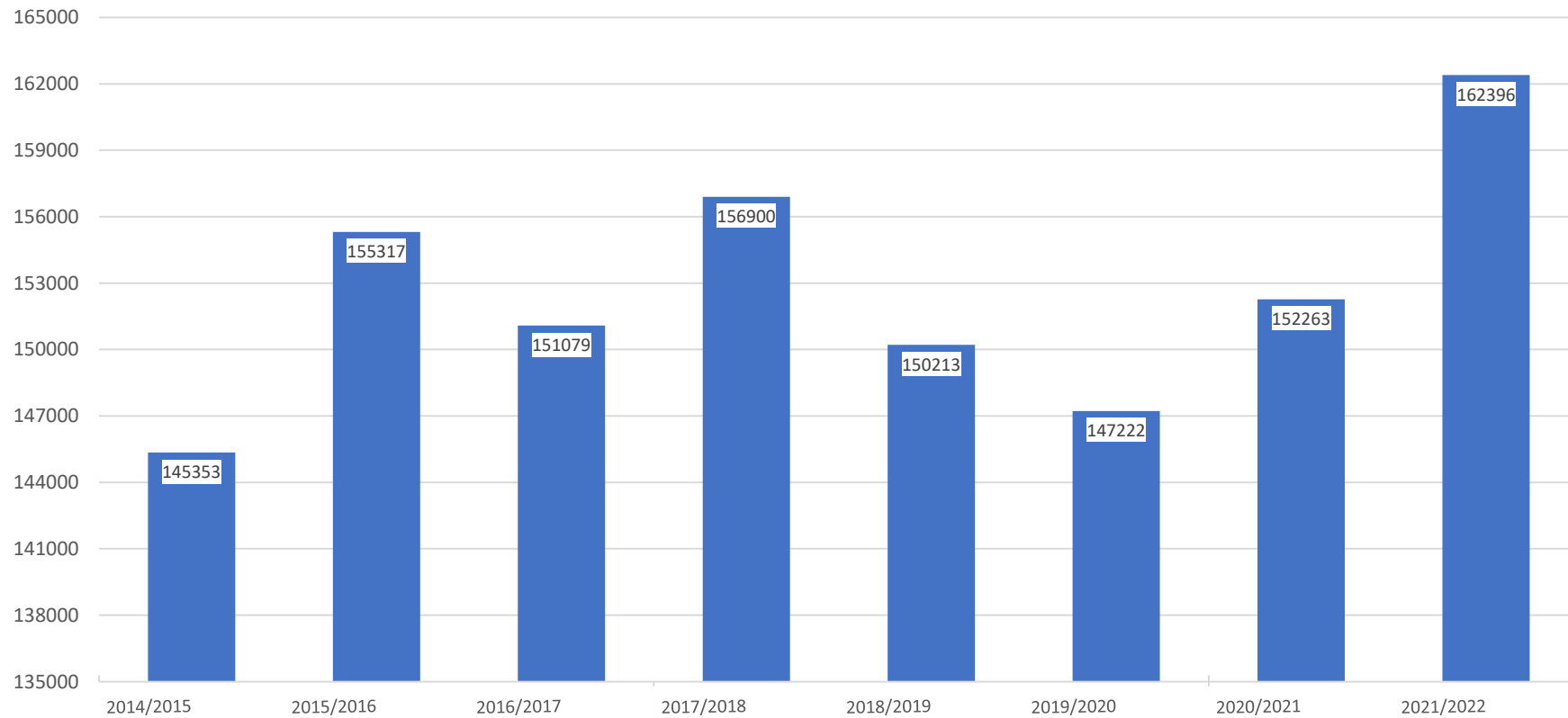
- Awareness campaigns



# Impact on demand



- Total annual consumption



	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
<b>Total</b>	145353	155317	151079	156900	150213	147222	152263	162396
<b>Increase%</b>		%7	%3-	%4	%4-	%2-	%3	%7



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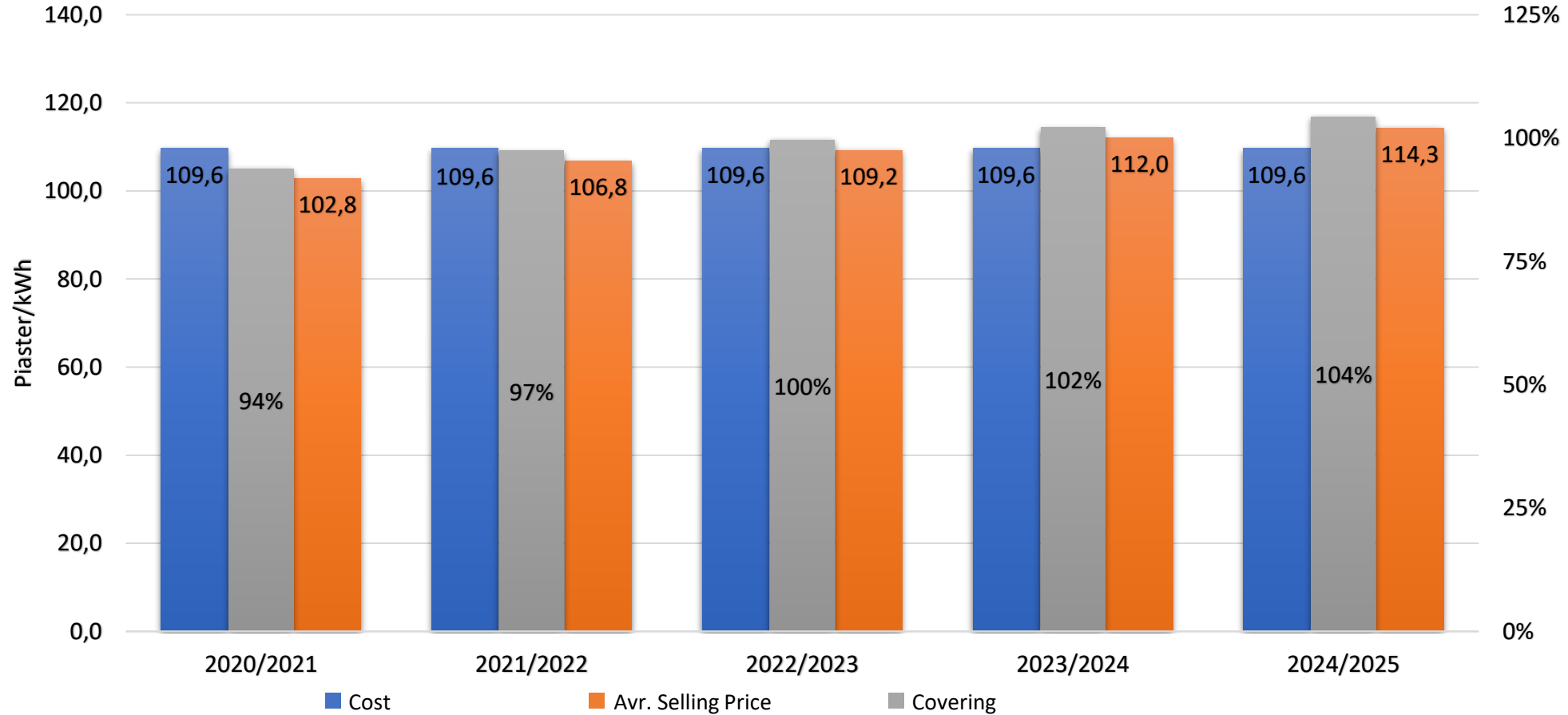
# ***Electricity Tariff Restructuring Plan*** ***2020/2025***

# Electricity Tariff Restructuring Plan 2020/2025

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***“it was reform but now it’s becoming business as usual and a continuous journey”***

# Electricity tariff restructuring plan in Egypt 2020-2025 (Planned)





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# ***The Announced Tariff for the Financial Year 2022/2023***

# The Announced Tariff for the Financial Year 2022/2023



Purpose of usage	Demand Charge (US\$/KWh/m)	Energy Average Price (UScent\$/KWh)	Off Peak (UScent\$/KWh)	On Peak (UScent\$/KWh)	Customer Service Charge(US\$/Customer/m)
<b>Extra High Voltage (220-132 kV)</b>					
Kima	-	2.3	-	-	1.13
Metro	-	3.2	-	-	
Other Subscribers	1.29	3.4	3.1	4.7	
<b>High Voltage (66-33 kV)</b>					
Metro	-	3.4	-	-	1.13
Other Subscribers	1.62	3.6	3.3	4.9	
<b>Medium Voltage (22-11 kV)</b>					
Irrigation Purposes	1.94	3.2	3	4.5	1.13
Water & Sanitation Companies	-	3.9	-	-	
Other Subscribers	1.94	3.7	3.4	5.2	
<b>Low Voltage (380 V)</b>					
Irrigation	-	3.4	-	-	0.13
Other Subscribers	-	4	-	-	0.49
Public Lighting	-	4	-	-	



# The Announced Tariff for the Financial Year 2022/2023



## Commercial Shops

Consumption blocks (KWh/month)	Average Price (UScent\$/KWh)	Customer Service Charge (US\$/Customer/m)
0-100	2.1	0.162
<b>Consumption from 101 to 250 KWh</b>		
0-250	4.0	0.485
<b>Consumption from 251 to 1000 KWh</b>		
0-600	4.5	0.647
601-1000	5.0	0.81
<b>Consumption more than 1000 KWh</b>		
0-1000 and more	5.2	1.294
Zero reading & Closed units	-	0.291

# The Announced Tariff for the Financial Year 2022/2023



## Residential

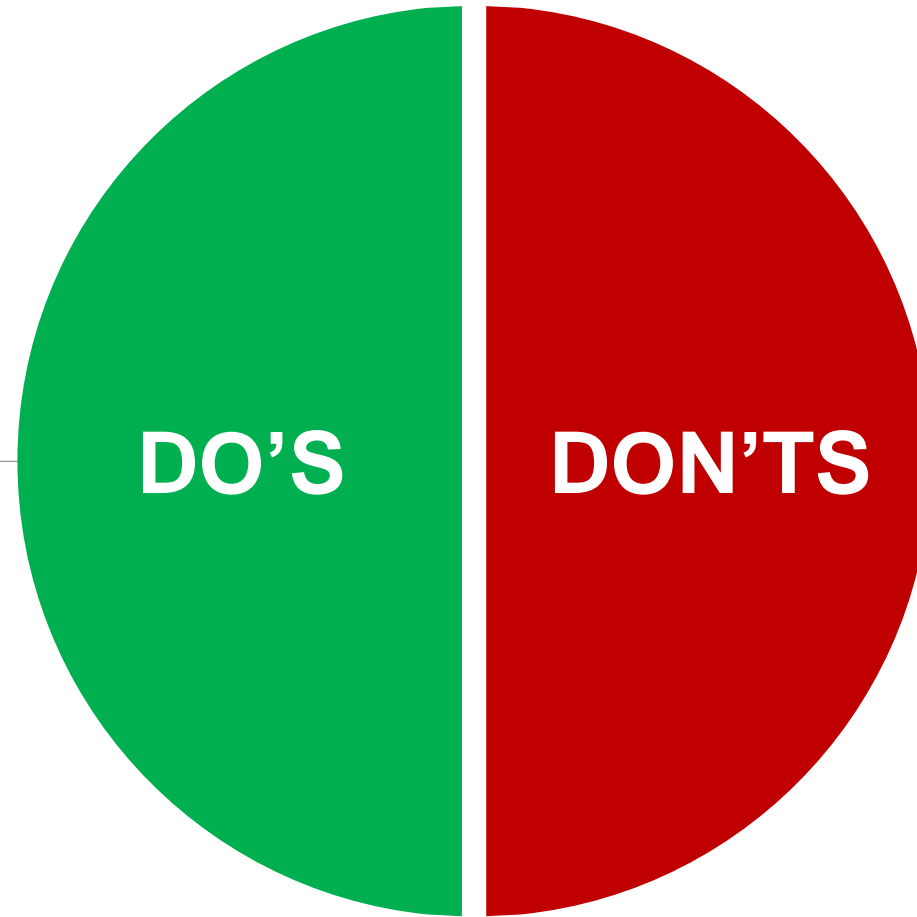
Consumption blocks (KWh/month)	Average Price UScent\$/KWh	Customer Service Charge (US\$/Customer/m)
0-50	1.9	0.033
51-100	2.2	0.065
<b>Consumption from 101 to 650 KWh</b>		
0-200	2.7	0.194
201-350	3.6	0.356
351-650	4.2	0.485
<b>Consumption more than 650 KWh</b>		
0-less than 1000	4.4	0.81
0-1000 and more	4.7	1.294
Zero reading & Closed units	-	0.291

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# Recommendations



*Set a methodology to follow and get the needed approval on it.*



*Cost separation (Fuel, Fixed, variable)*



*Increase Transparency (Communication Plan)*



*Prepare affordability Study*



*A short period plan*



*Avoid having cross subsidy between customers*



*Capacity and Energy tariff charge*



*make cross subsidy between customers or voltage levels*



*Discriminate between Customers in same voltage level*



*Imagine that the cost can be fixed during the restructuring plan*



*Forget to monitor the losses*



*Forget to link increase of quality of service with subsidy reform plan*



*Forget to allocate cost to the cost causation element (electricity, customer service, connection)*



**THANK YOU  
FOR YOUR ATTENTION!**

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