



# **The Pan-Arab Electricity Market.. From Vision to Execution and Results**

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**Introduction**



**The Pan – Arab Electricity Market**



**The Current situation**

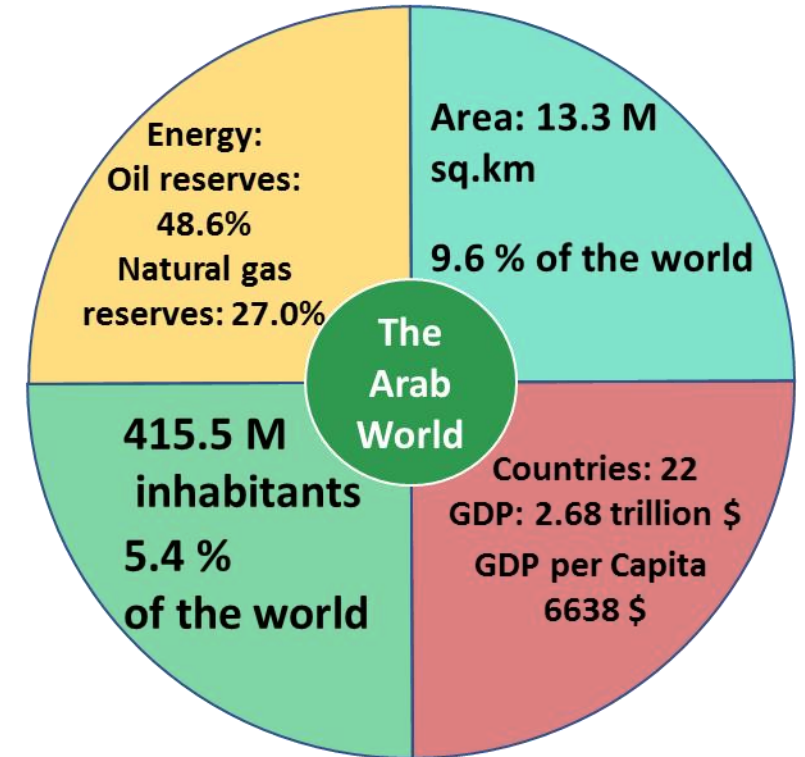
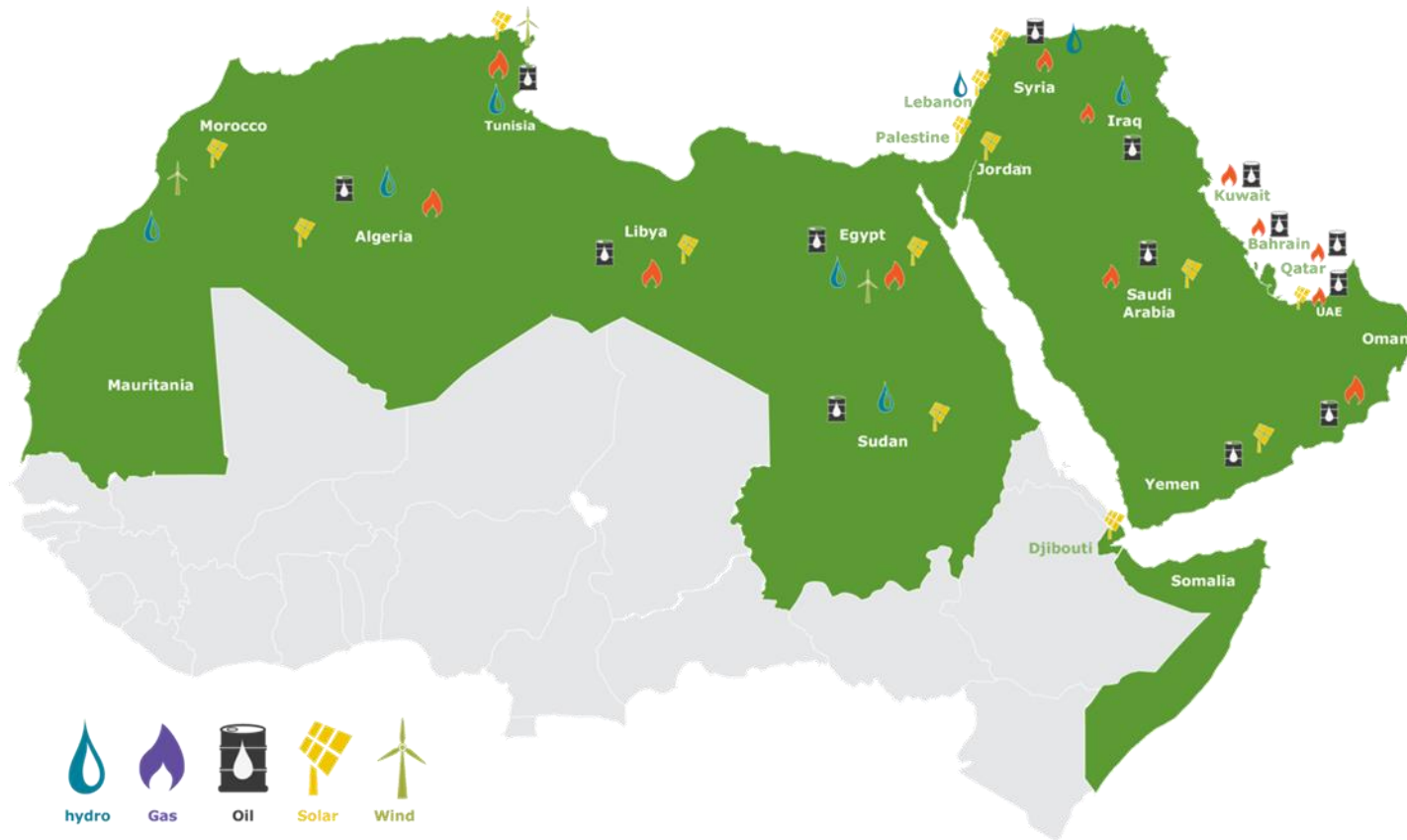


**The Future**



**Next steps**

# Introduction .. Oil, Gas and RE



# Introduction .. Electricity Sector



Installed capacity  
over **288 GW**

Type of Consumption:  
**46%** Residential,  
**18%** Industrial,  
**17%** Commercial,  
**19%** Others

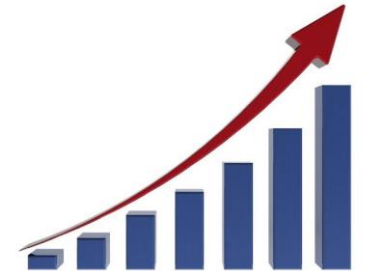


**18.3 GW**  
Renewable  
energy installed  
capacity

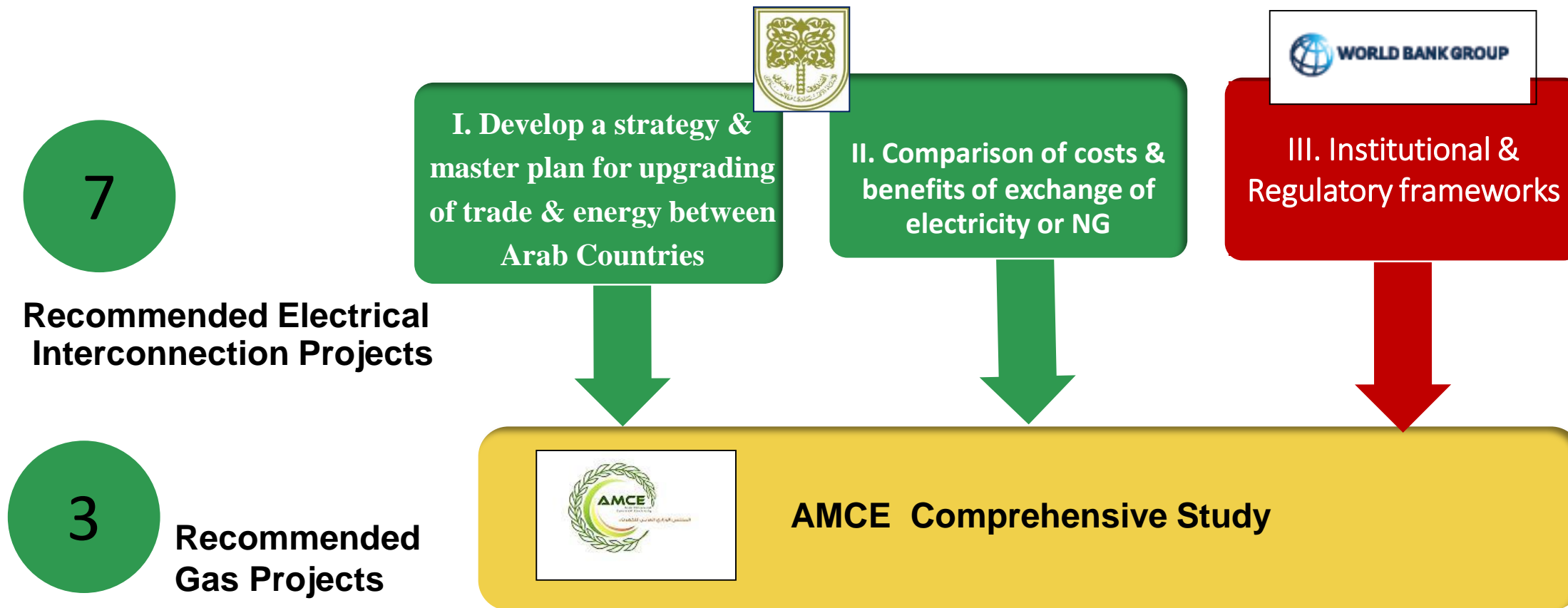


More than **212, 500**  
**km** Transmission  
Network

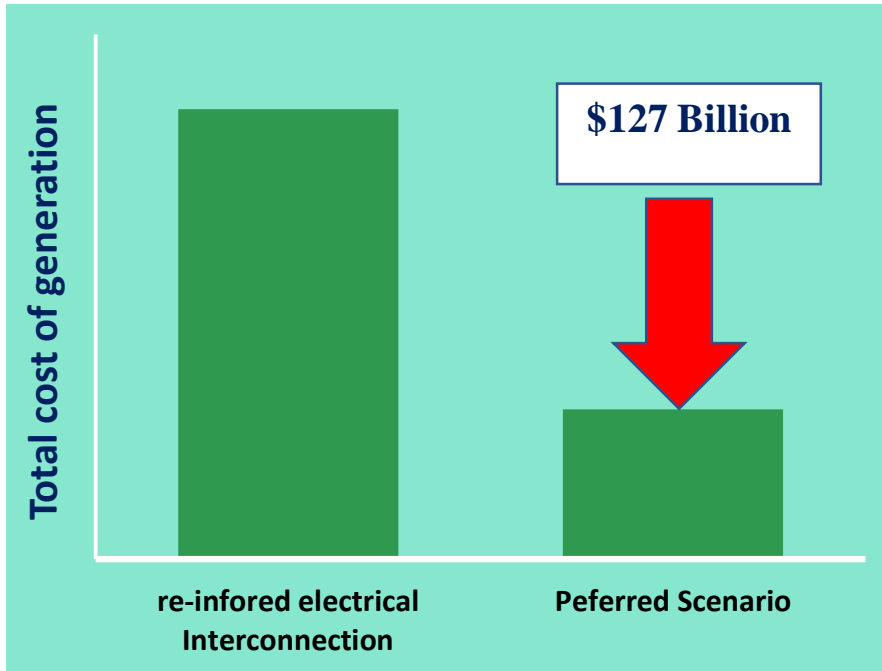
**1,137,644 GWh**  
energy  
produced in  
2017



# The Role of Partners

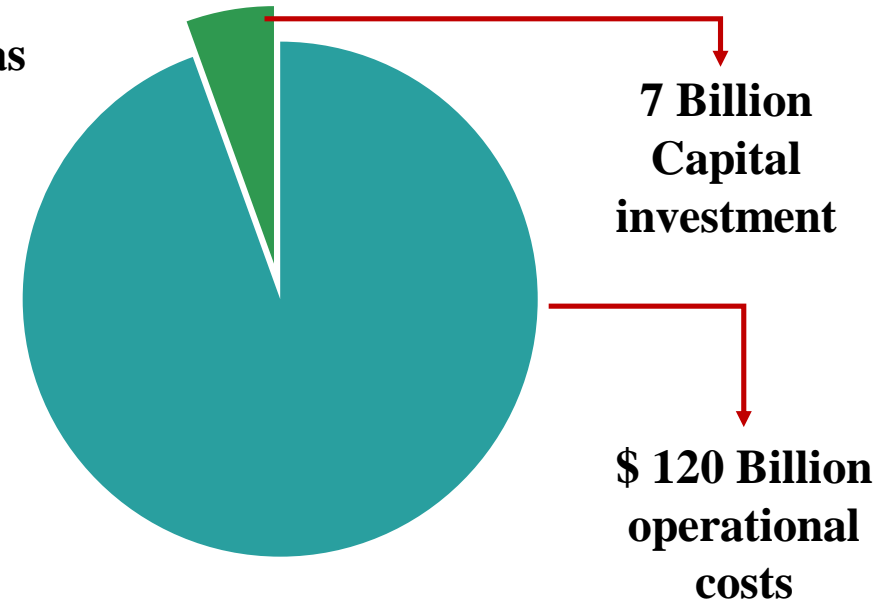
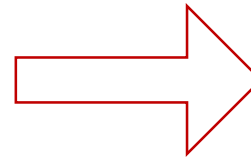


# Generation cost expected savings 2012-2030



**Present value (PV) of saving is \$ 35 Billion**

**Disbudded as follows**



**Plus an additional \$ 11 Billion in Reduction of emissions of harmful gases**

# MOU Signing Ceremony (6/4/2017)





# Requirements for Establishing the PAEM

## Legal and Legislative Frameworks

- ☐ Memorandum of Understanding ✓
- ☐ General Agreement ✓
- ☐ Market Agreement ✓
- ☐ Arab Grid Code (in progress)

## Institutions

- ☐ Market Committees (1- Regulatory and Advisory, 2- Market Systems Operators)
- ☐ Market Secretariat
- ☐ Market Facilitator

## Infrastructure

- ☐ Existing on Ground Projects



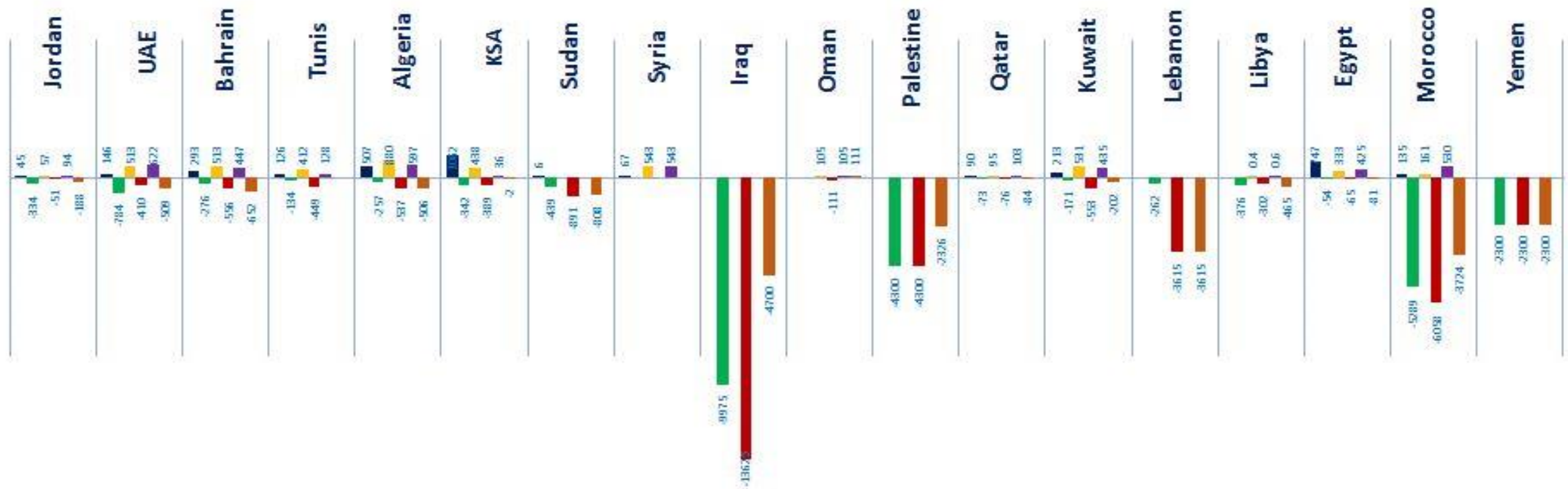
# CURRENT SITUATION

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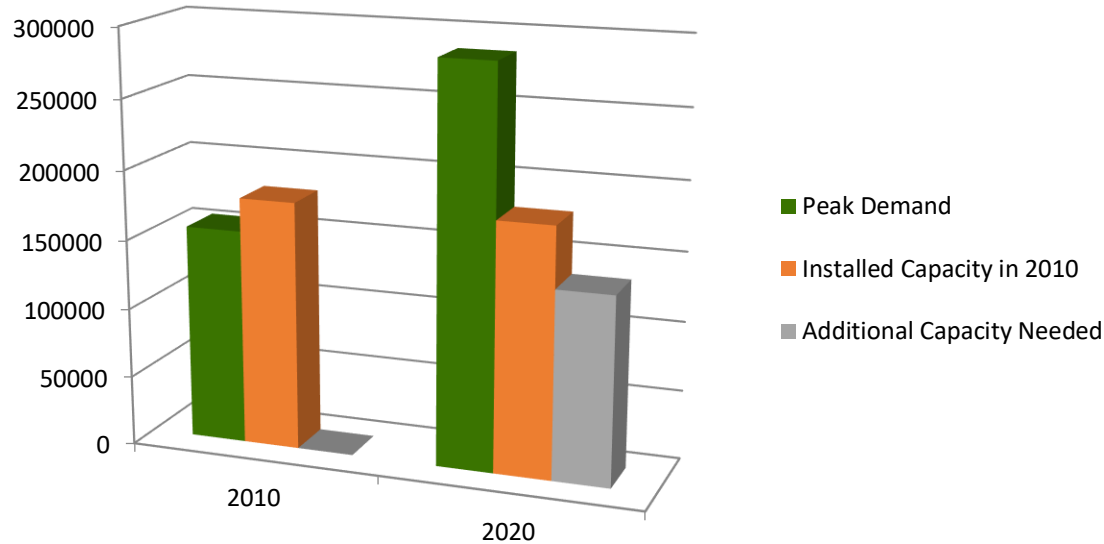
# Trading by Member States - Imports & Exports (2016-2018) IN GWh

THE SIZE OF ENERGY EXCHANGE IS STILL IN ITS START

■ Export 2016   
 ■ Import 2016   
 ■ Export 2017   
 ■ Import 2017   
 ■ Export 2018   
 ■ Import 2018



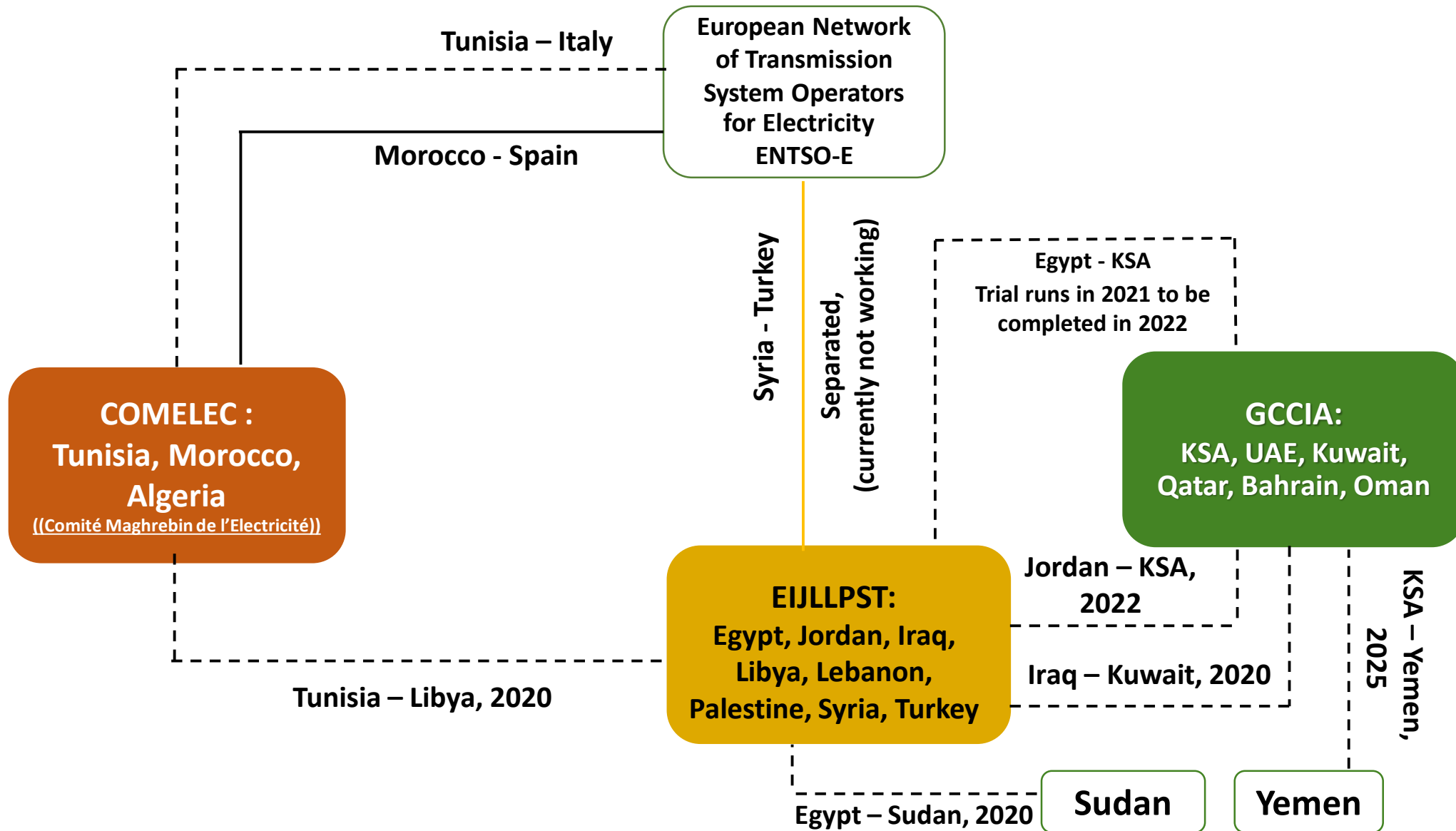
# Current Situation .. Increased Demand for Electricity



- Demand for electricity will increase by about 84% by 2020 compared to 2010, which requires the addition of generating capacity of about 135 GW.
- An investment of US 450 billion is required by 2020 in the electricity sector only.

2020 Electricity Generation Capacity to be Added	
Without regional integration	135 GW
With regional integration (electricity interconnection)	102 GW

# The Existing Interconnection Blocks



# The Future

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# PA Electricity Market: Governance Docs



## MOU

- **Commitment of Arab countries to Pan-Arab market integration**
- **Legal basis for Pan-Arab market and subsequent reforms**
- **Legal basis for Pan-Arab market institutions**

## GA

- **Objectives of Pan-Arab electricity market**
- **Guiding principles for development of Pan-Arab market**
- **Formation of, and roles and responsibilities of PA market institutions**

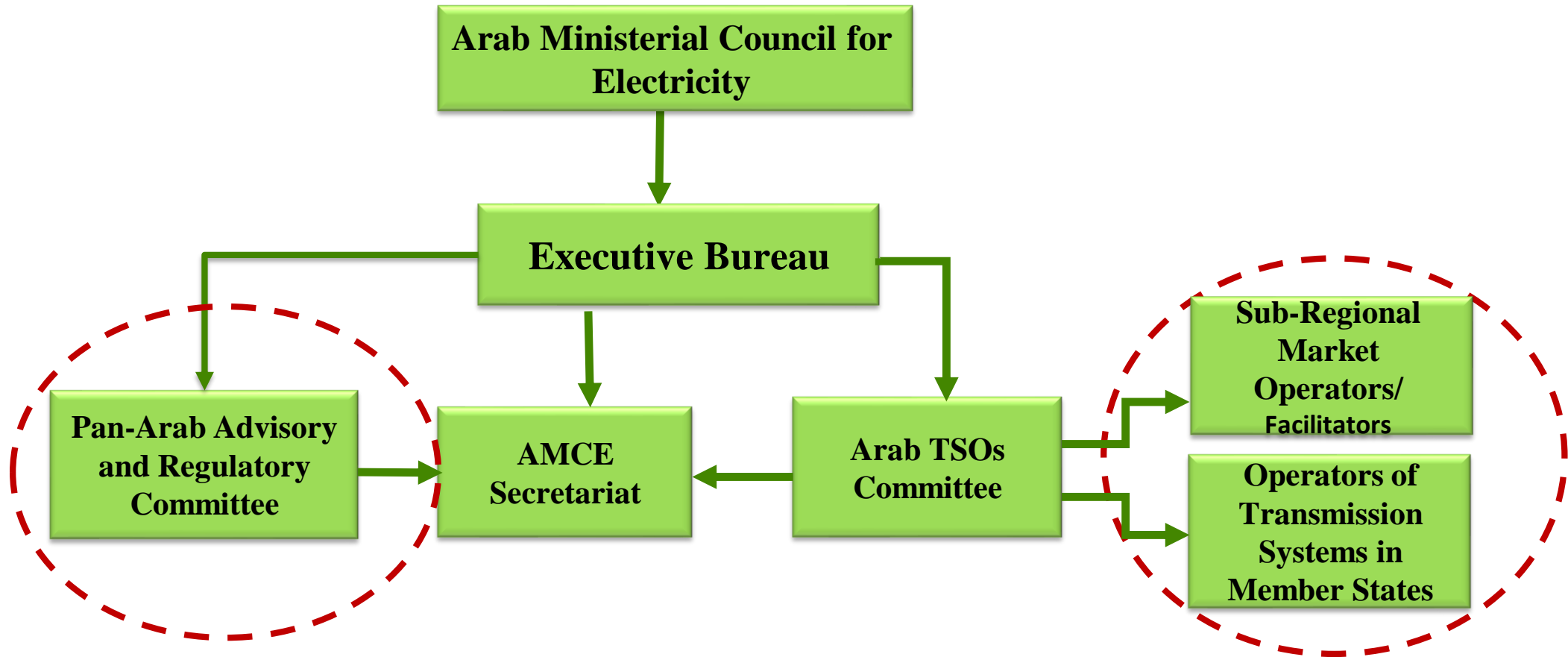
## PAEM

- **Commercial aspects of the Pan-Arab market, including operation, participation and administration**
- **Roles and responsibilities**
- **Metering, billing and settlement**

## Arab Grid Code

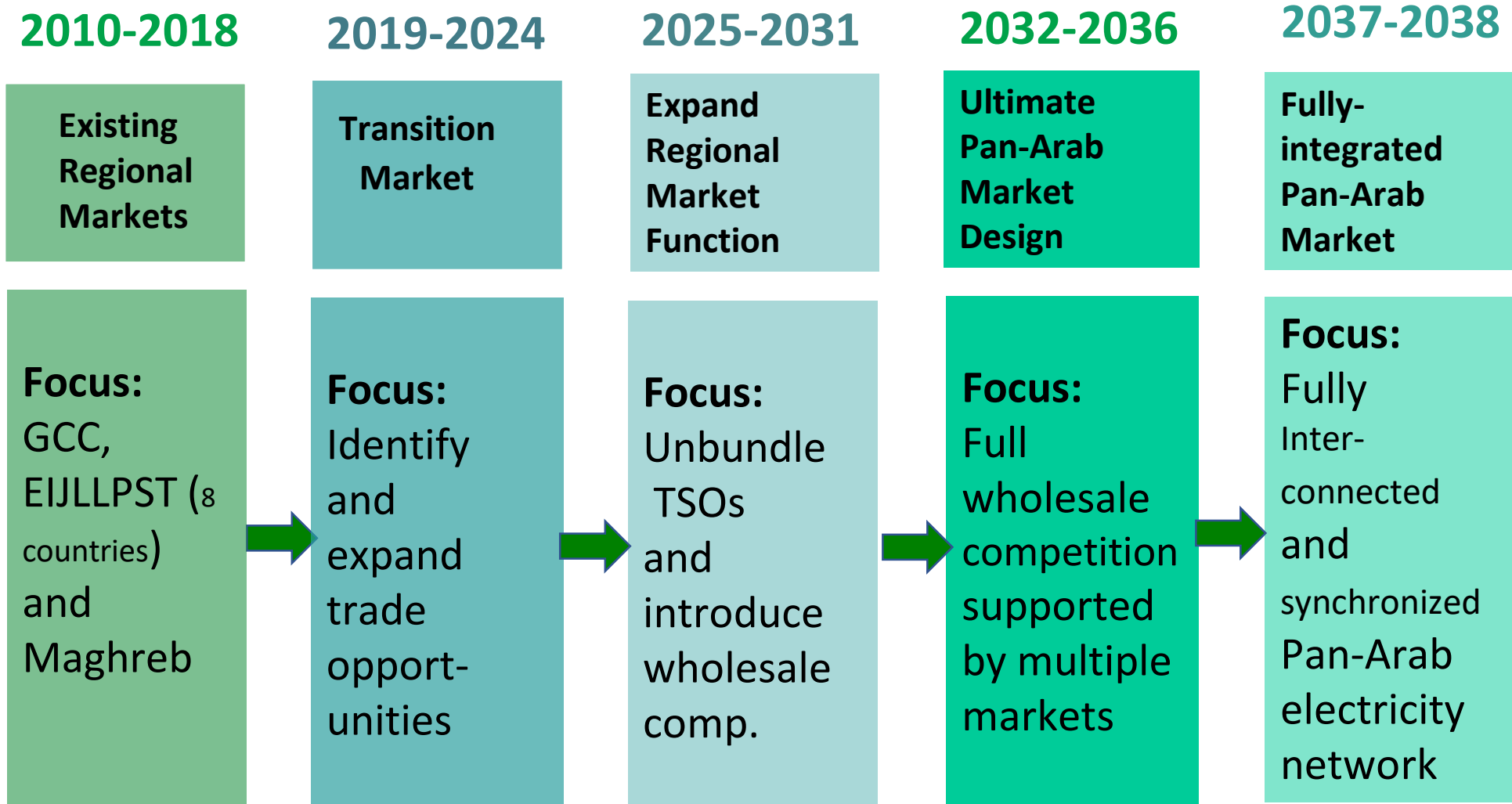
- **Minimum technical requirements for operation and planning national transmission networks & international interconnections**
- **Roles and responsibilities + Metering**

# PAEM: Proposed Regulatory Framework

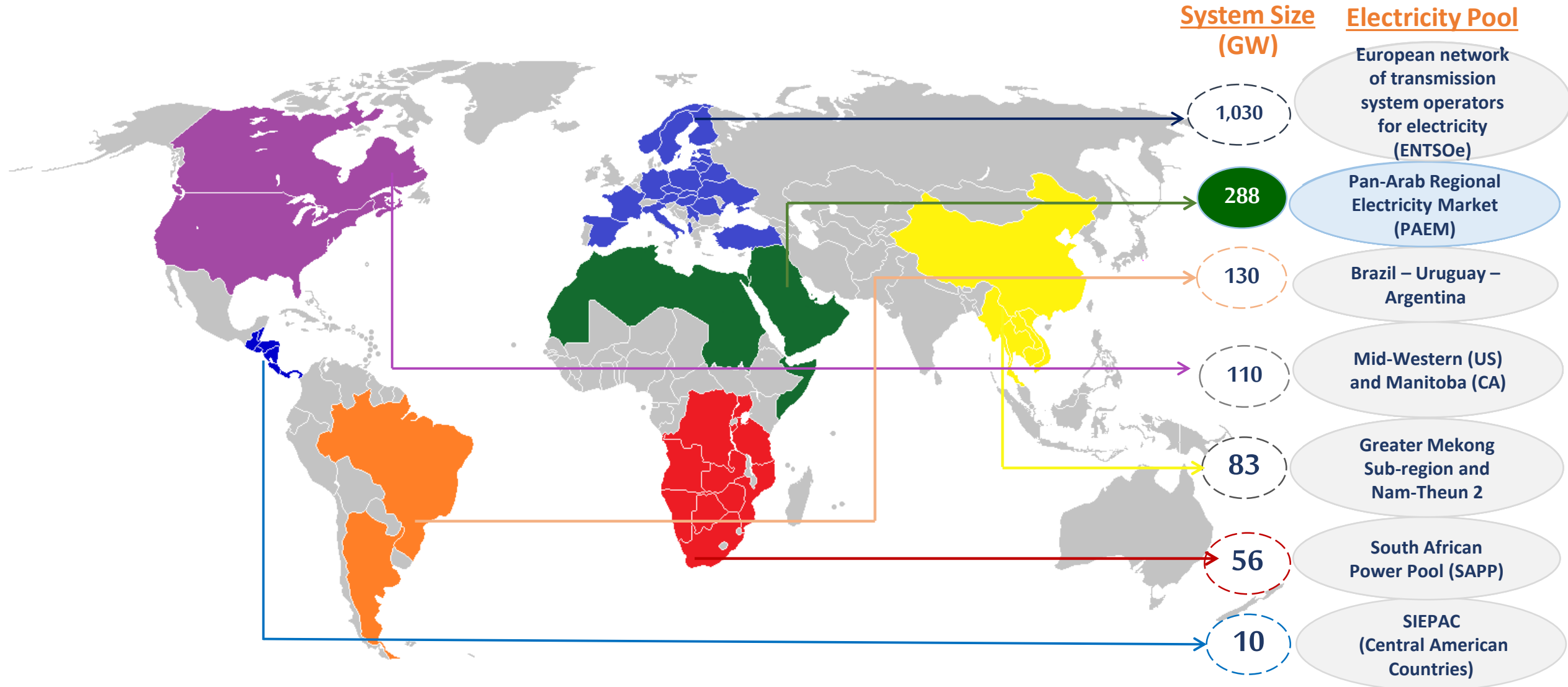




# PAEM: Market Integration Plan



# The envisaged PAEM .. A global overview



# NEXT STEPS

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# Market Governance Documents

Title of Document	Authorized to Sign	Current/expected Situation	Remarks
MOU	Ministry of Electricity	Signed by 16 Countries	
General Agreement	Member States Governments	2020	Reservation from 1 country
Market Agreement (the PAEM)	Asset Owners (transport system operators, single buyer entities)	2020	Reservation from 1 country
Arab Grid Code	Transmission system operators - and other market participants	2020	a consultant has been selected and the work is ongoing (financed by the Arab Fund)