1st German-Arab Energy Forum (GAEF)

14th – 15th October 2010

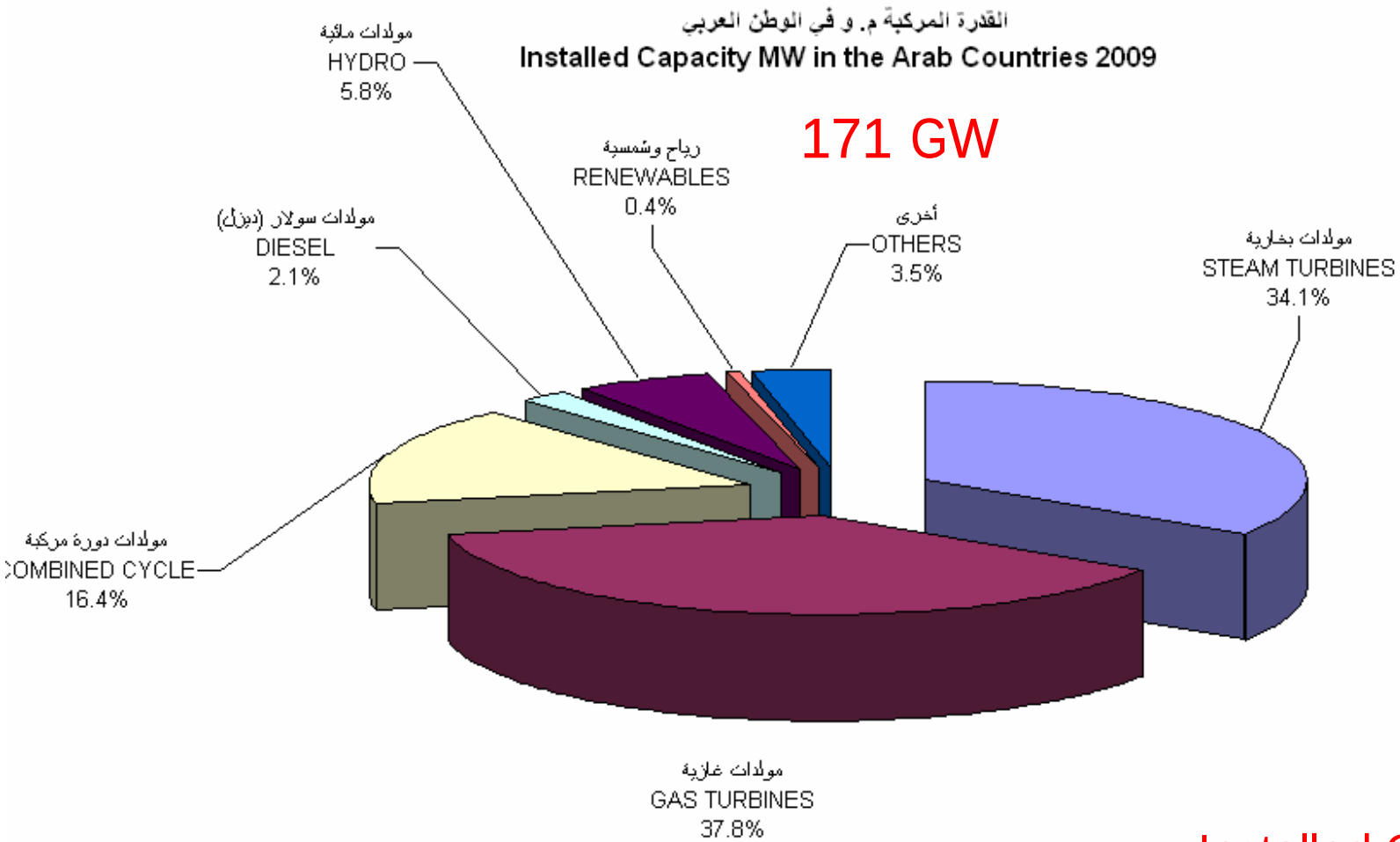
Berlin

Presentation components :

1. Electricity Sector in the Arab Countries.
2. Interconnection Projects
   - Between Arab Countries
   - Between Arab Countries and Europe.

3- Conclusion & Recommendations.

Electricity Sector in the Arab Countries



171 GW

Installed Capacity is about 3.5% of the World.

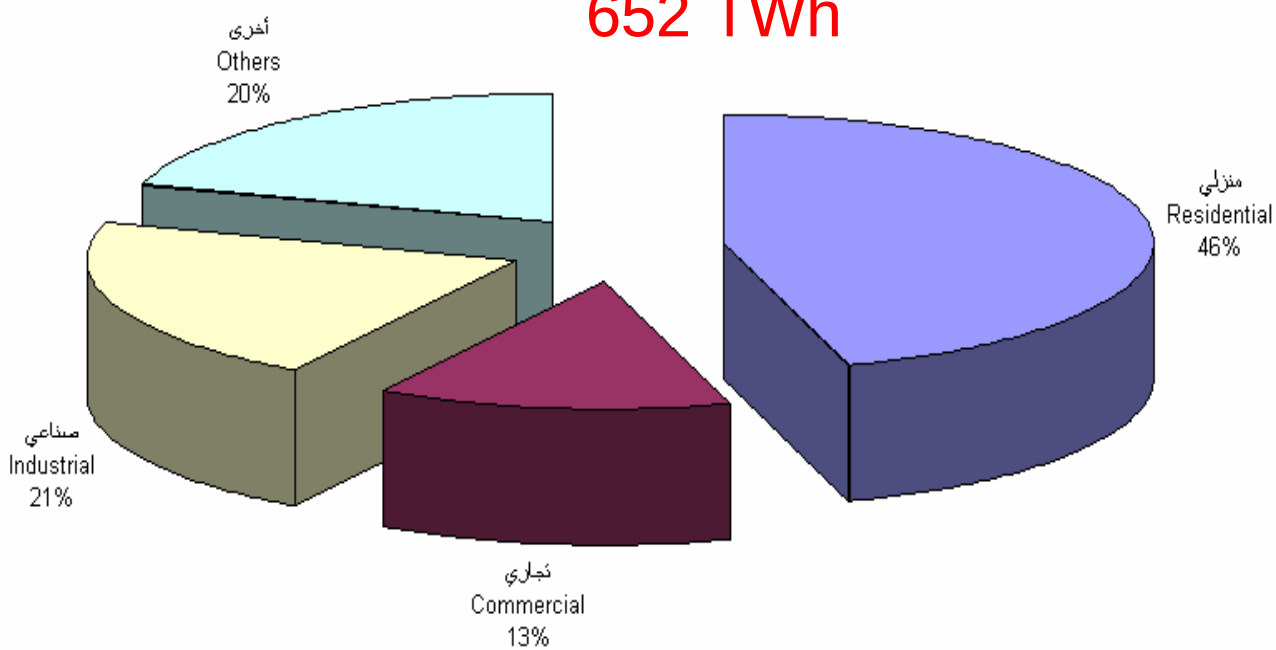
Some countries practices Load Shedding, because of Shortages, specially in Summer.

الطاقة الكهربائية المستهلكة في الوطن العربي (ج و س)

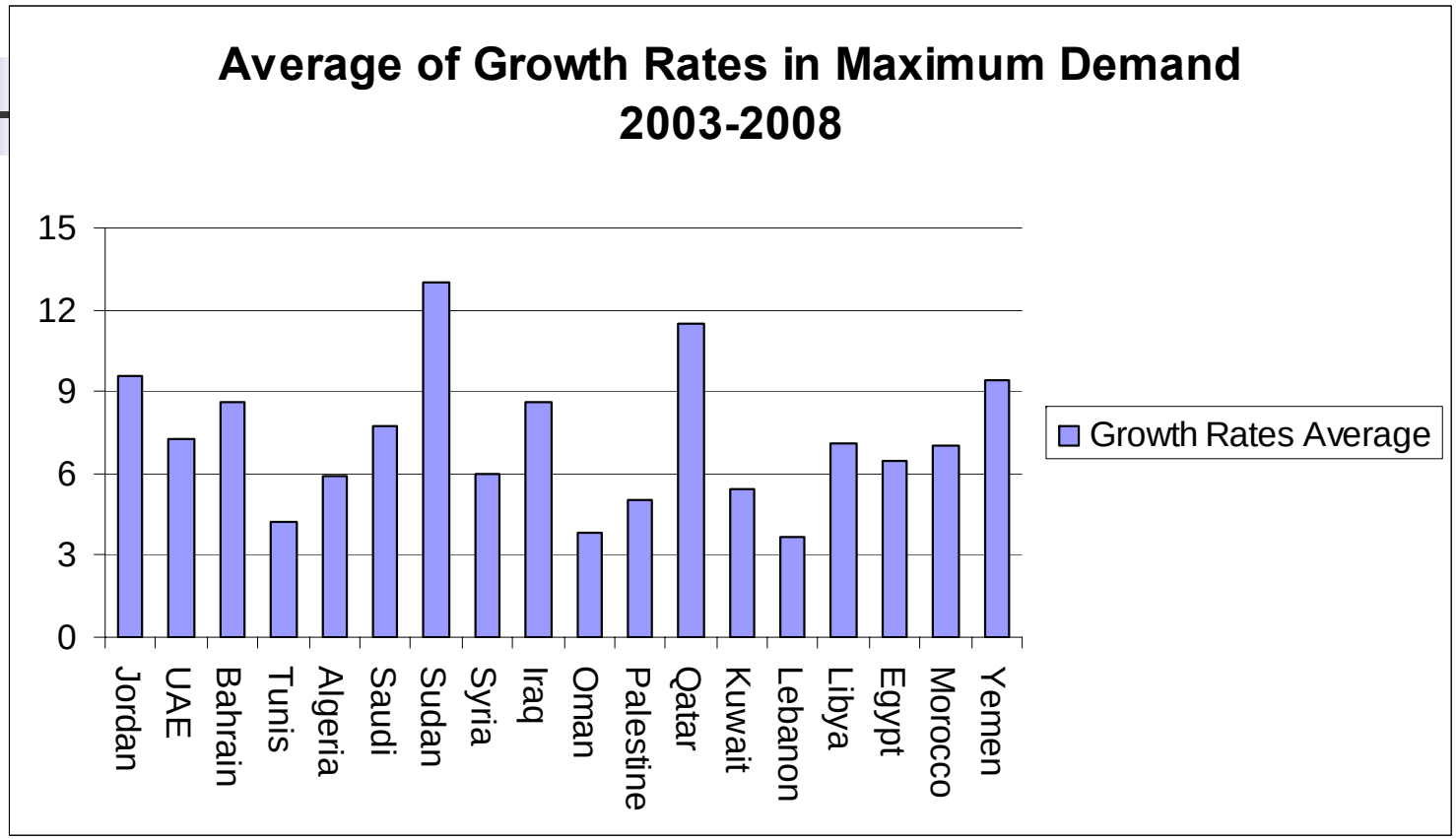
Enegy consumption in the Arab Countries (GWh)

2009

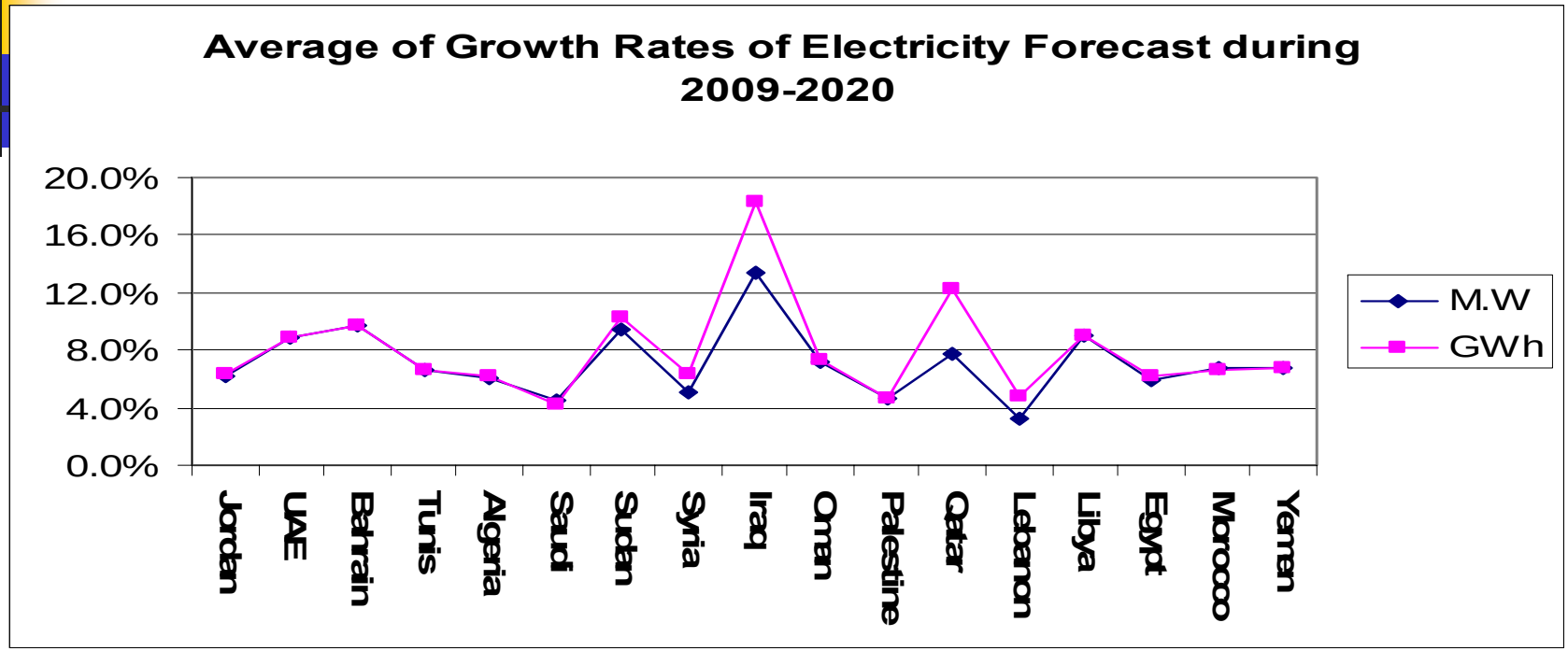
652 TWh



Average consumption per Capita is 2000 KWh/year.
But it varies widely from a Country to another.
(16500 KWh Emirates, 130 KWh Sudan)



Average Growth Rates range between 4-12%. It is high in international standards. It needs lot of money for investment in Generation, Transmission and Distribution.

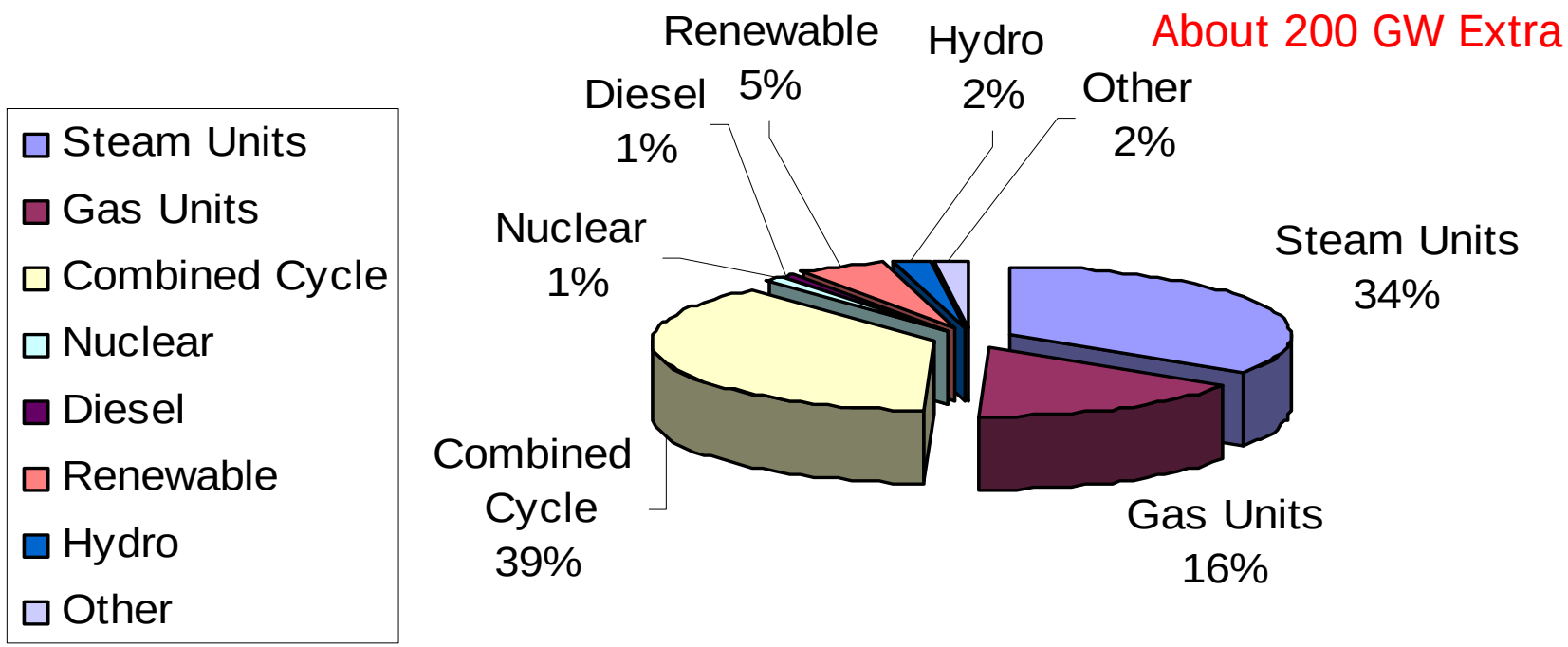


Still Average Growth Rate is High. One of the main reasons is the subsidized tariff in most of the Countries.

New Additions in the Arab Mediterranean Countries 2009-2020

Country	Steam turbines	Gas Turbines	Combined Cycle	Nuclear	Renewable	Hydro	Total
Jordan	٣٠٠	١٦٠	١٦٠٠	١٠٠٠	١٠٣٠		٤٠٩٠
Tunis		١٠٠	١٦١٠		٣٥٨		٢٠٦٨
Algeria		٣٠٨٠	٧٣٥٠				١٠٤٣٠
Syria	٨٤٠	٣٠٠	٤٢٧٥			٨٠٠	٦٢١٥
Palestine			٧٦٠		١٠٠		٨٦٠
Libya	٩٤٥٠	٨٥٥	٦٣٤٧				١٦٦٥٢
Egypt	١٣٧٠٠	١٠٠٠	٩٧٥٠	١٠٠٠	٦٧٤٢		٣٢١٩٢
Morocco		٤٠٠	١٧٧٢	٩٥٠	١٦٠٠		٤٧٢٢
Total	٢٤٢٩٠	٥٨٩٥	٣٣٤٦٤	٢٩٥٠	٩٨٣٠	٨٠٠	٧٧٢٢٩

New Generating Capacities in the Arab World 2009-2020



The new combination shows:

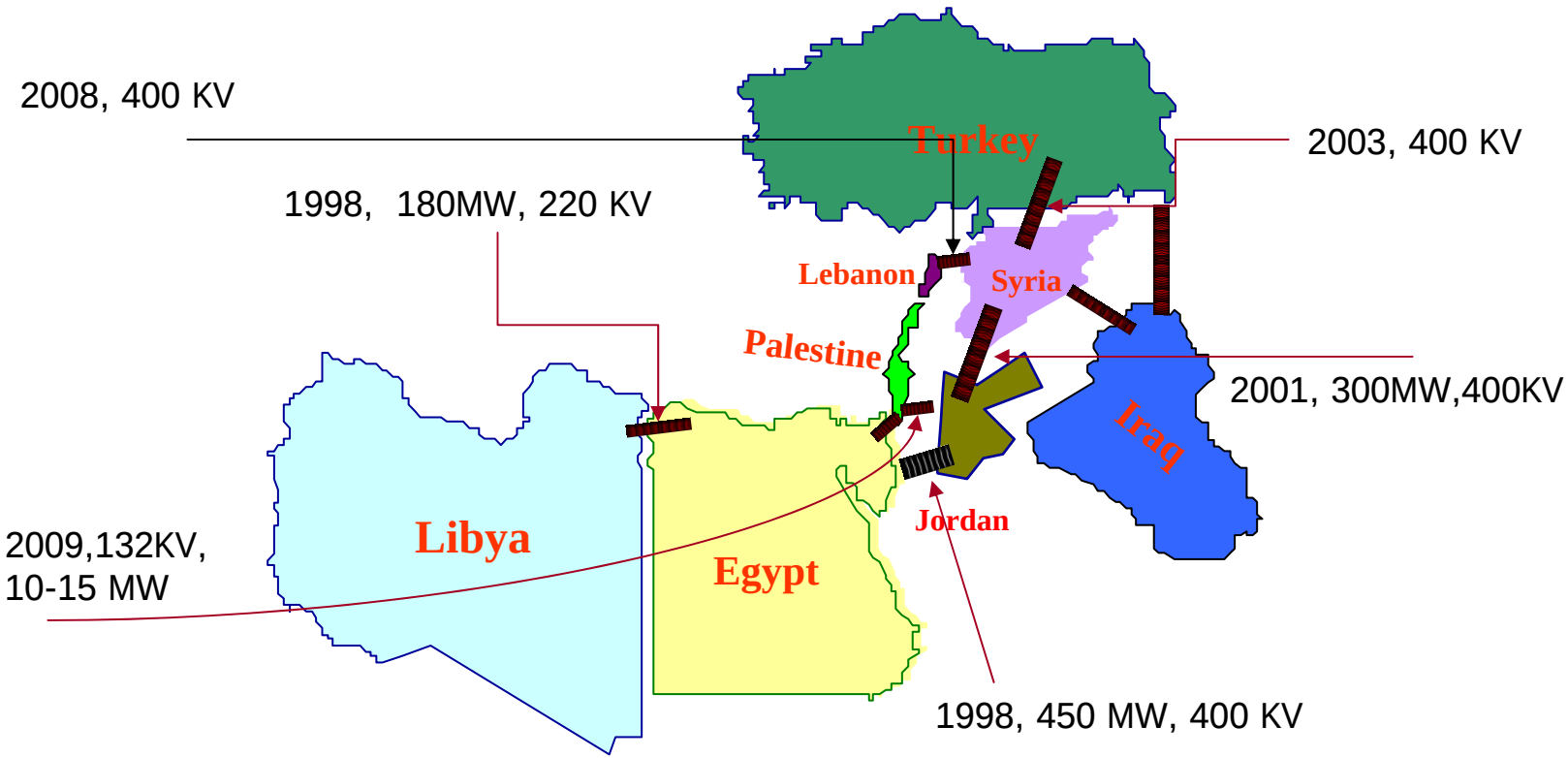
- Combined Cycle units will increase from 14.6 % to 39 %, burning Natural Gas.

- Renewable energy will increase from 0.4 % to 5 %

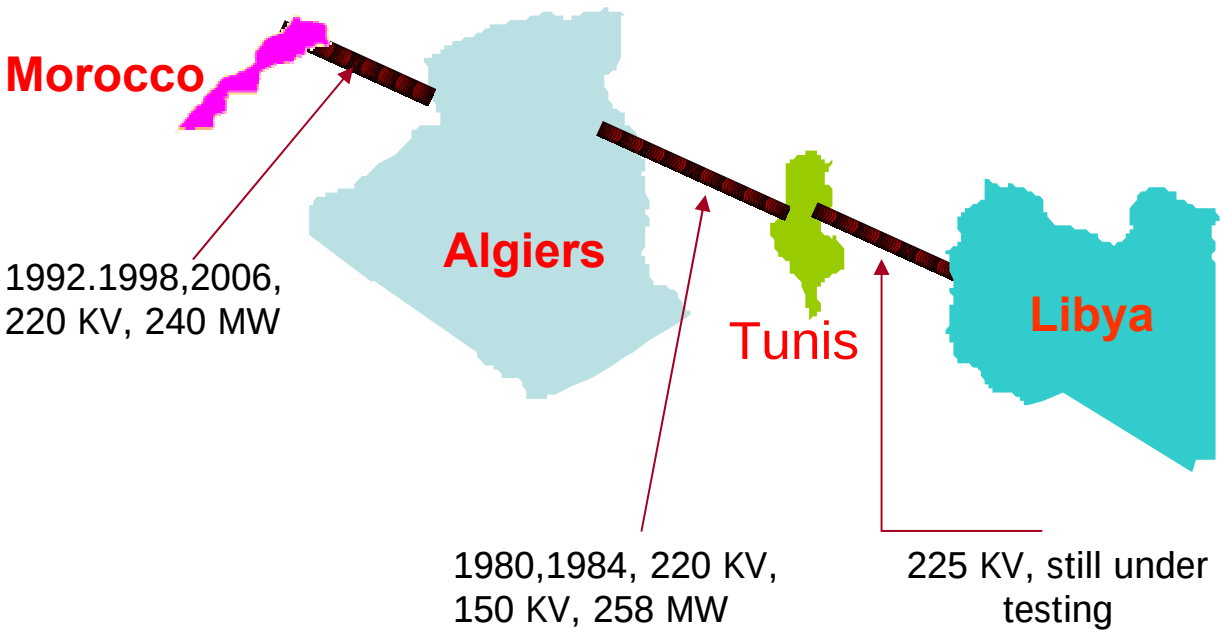
- Nuclear Energy will be introduced in some countries by 2018-2020.

Interconnection Projects

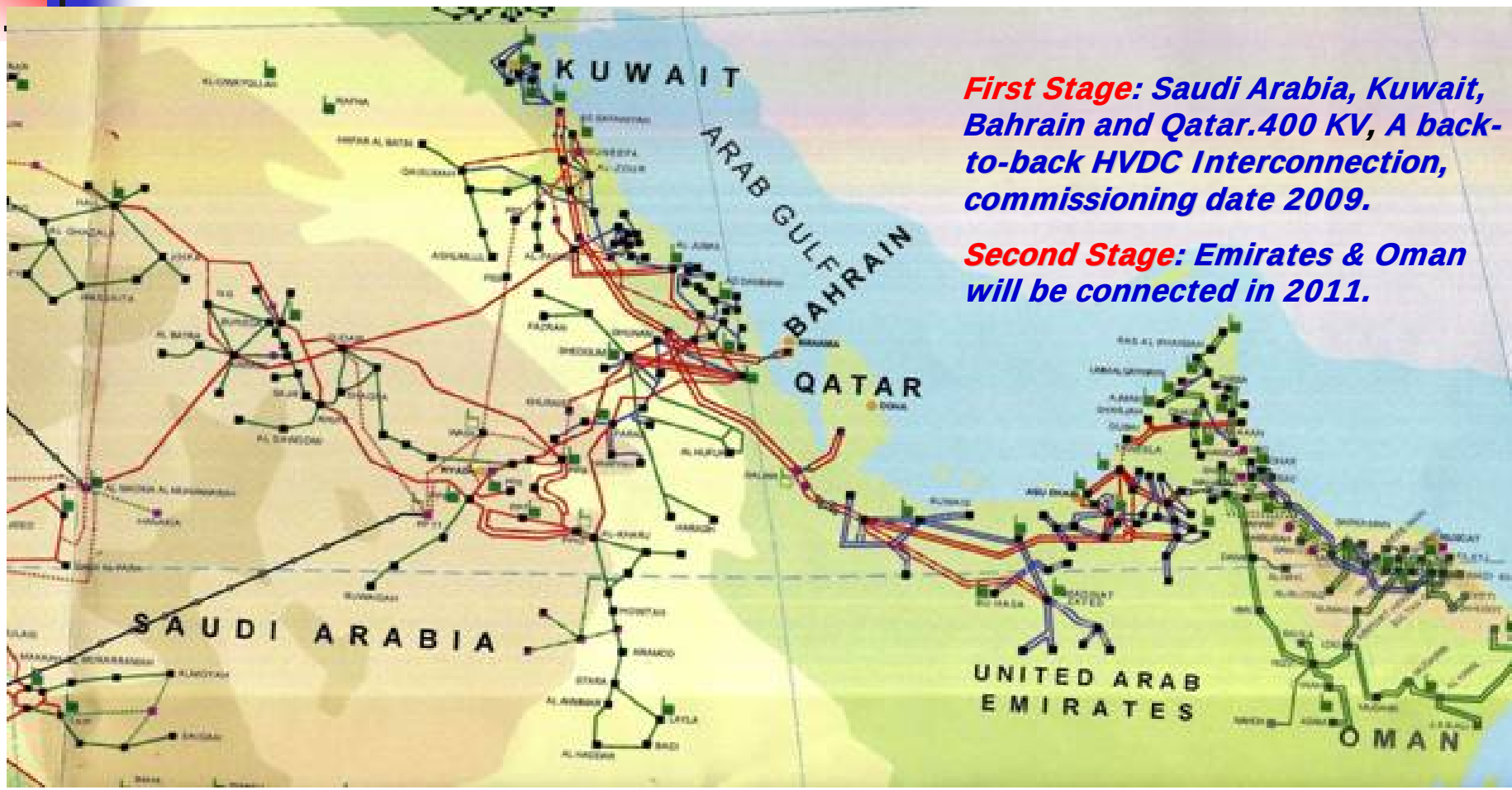
Eight Countries



Maghrib Countries



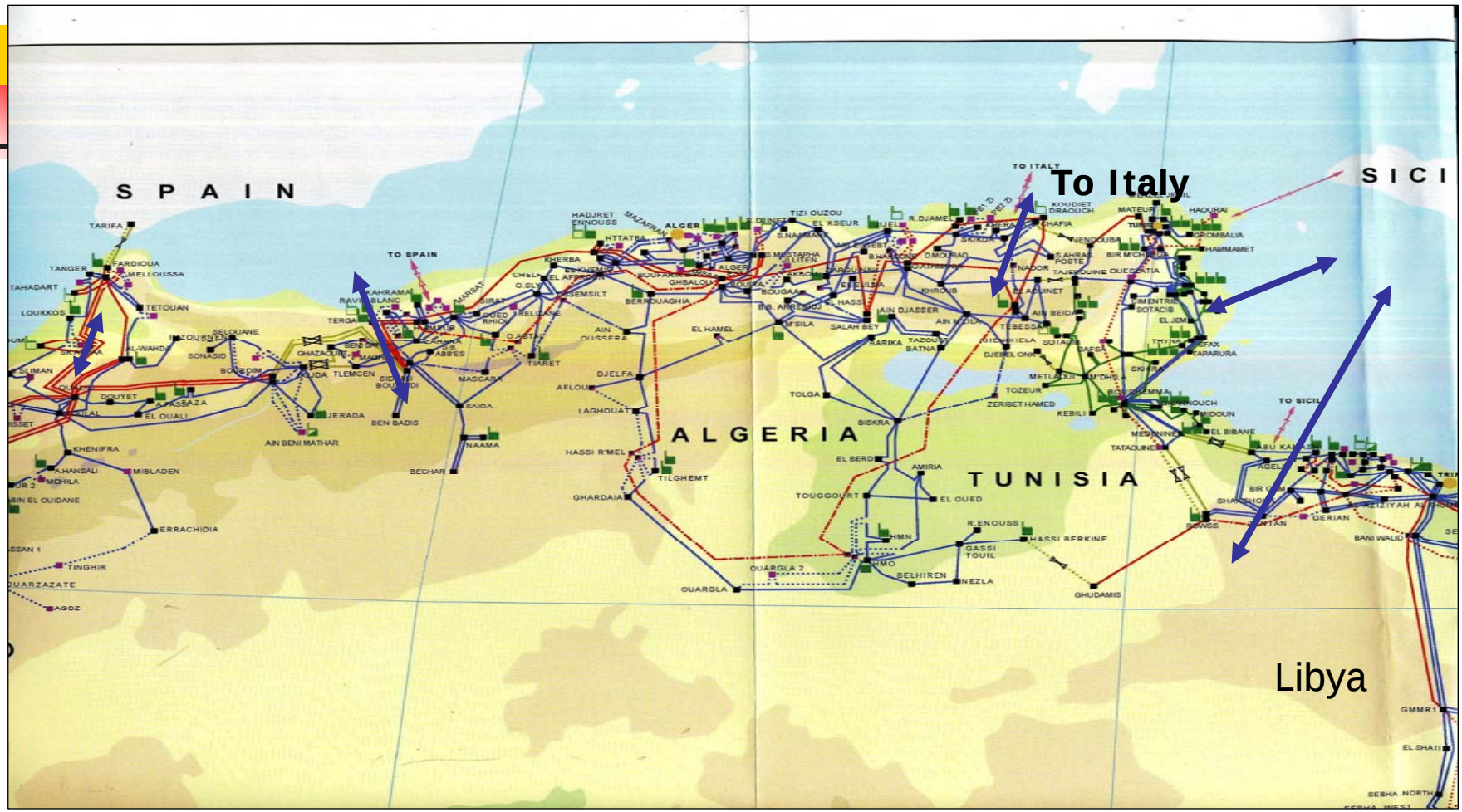
Arab Gulf Countries



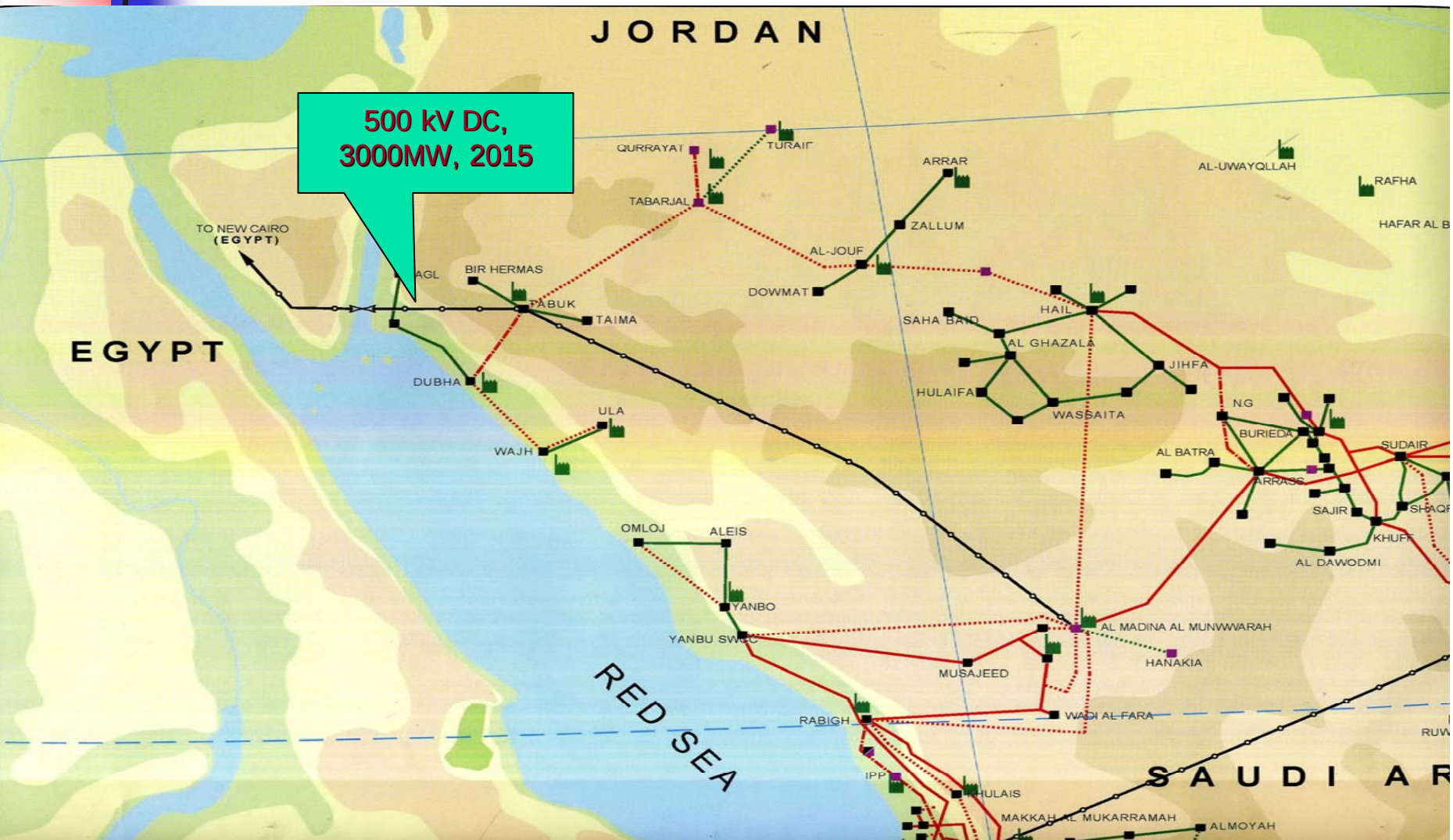
***First Stage*: Saudi Arabia, Kuwait, Bahrain and Qatar.400 KV, A back-to-back HVDC Interconnection, commissioning date 2009.**

***Second Stage*: Emirates & Oman will be connected in 2011.**

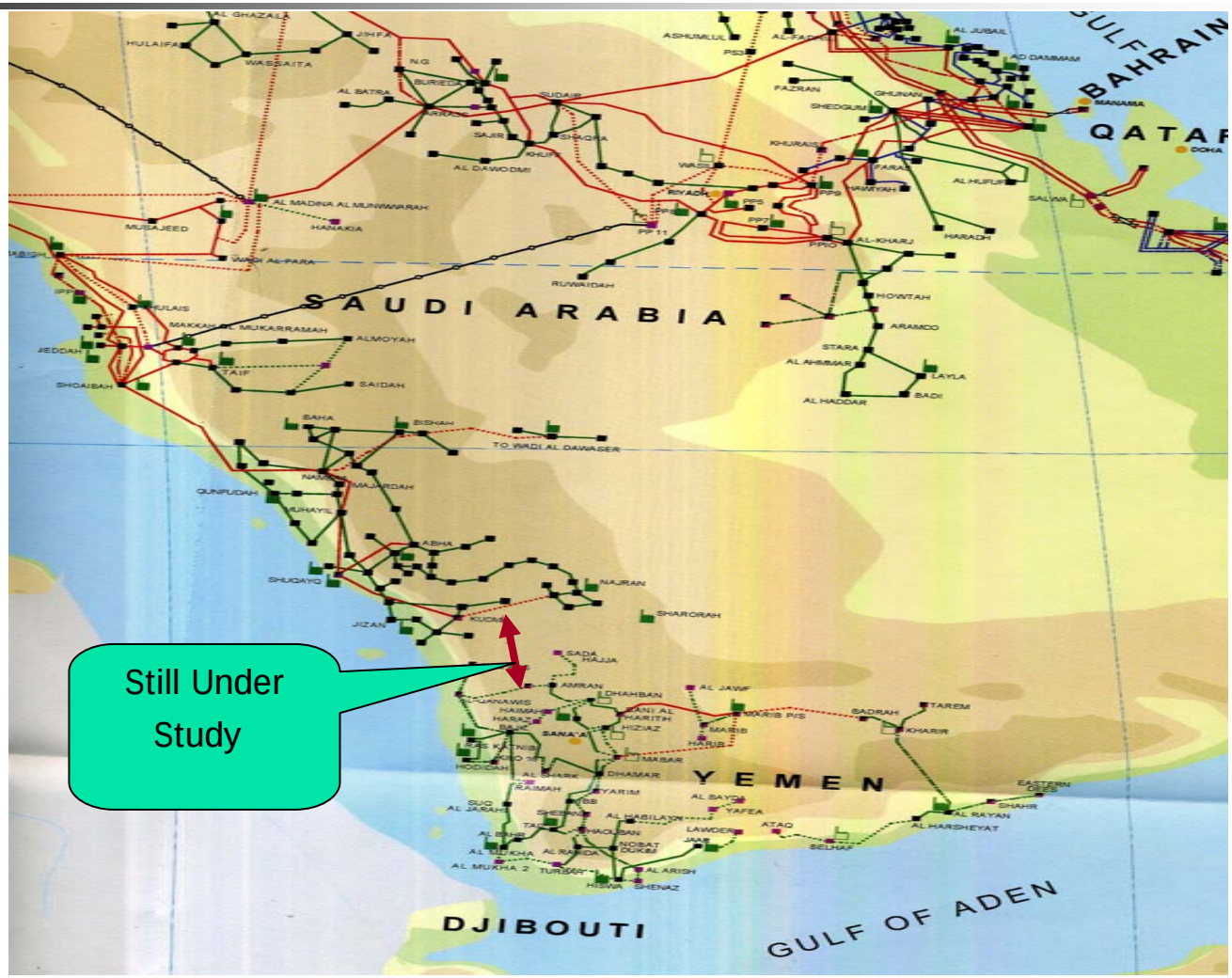
Arab Countries with Europe



Egypt-Saudi Arabia



Saudi Arabia-Yemen



Conclusion & Recommendations

1- Growth rate in electricity demand in the Arab Countries are high, (4-12%), which means high annual investment in Generation and Transmission projects is required.

2- New additions in Arab Countries during (2009-2020) 200 GW,(5% Renewable) out of which 77 GW in the Arab Mediterranean Countries.(13% Renewable)

3- MENA Countries have no framework and regulations for the Cross Border Trading (CBT). European help in this regard is appreciated

4- Some Utilities have already completed the restructuring process, and introduce the private sector in the electricity sector.

5- A study of Institutional and Regulatory Framework for the power sector in the Arab Countries will be carried out jointly by the World Bank and the League of Arab States.

6- Joint studies and arrangements between The Maghreb Countries and the EU are in process to create common electricity markets between both parties. A similar interest to create electricity market with the Mashreq Countries is appreciated.

7- Interconnection between Arab Countries is still isolated. (Mashreq, Maghreb and GCC).

8- Interconnection between Libya-Tunis and between Saudi Arabia-Egypt are very important to interconnect all three parts.

9- Interconnection between Arab countries and Europe is going slow. Europe technical and financial help is appreciated to fasten the process .

10- Europe interest is concentrated in the South Mediterranean Countries. MED-EMIP, MED-ENEC, MEDRING, MEDELEC, DESERTIC, TRANS-GREEN, MEDREG are all good initiatives. Similar initiatives are required for the rest of the Arab Countries. Just change MED to become Arab… Arab-EMIP, Arab-ENEC … etc.