



Gulf Cooperation Council Interconnection Authority

“GCC POWER GRID”

Transforming the GCC Power Sector into a Major Energy Trading Market

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The Authority

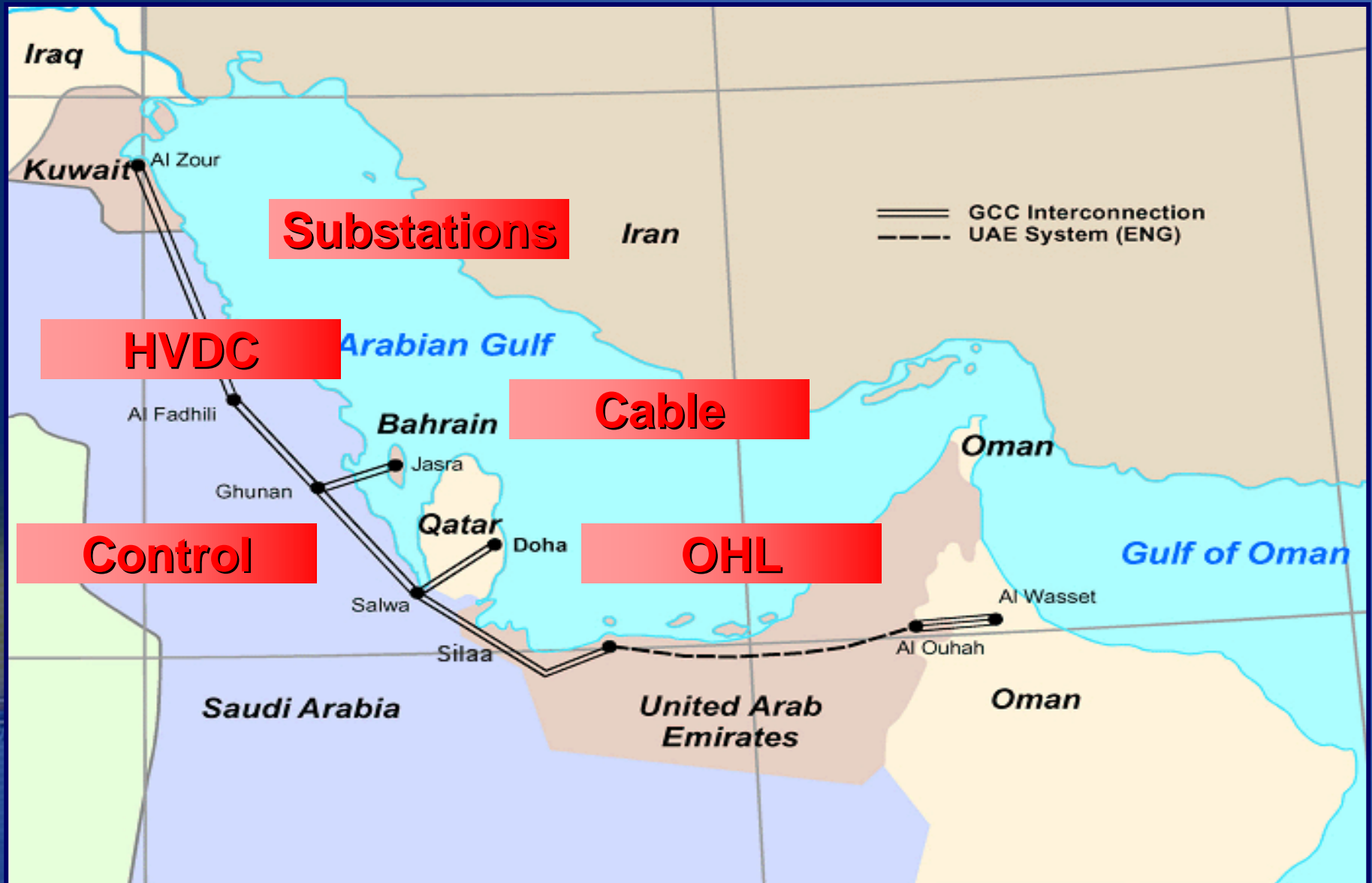
- Based on the GCC Long-Term Comprehensive Development Strategy Goals which stands out:

“Complete interlinking of the infrastructure network among the GCC States, especially in the field of electricity, transportation, communication and information.”

- The purpose of the Authority:

- Link the Power grids of the six member States
- Operate and maintain the Interconnection Grid
- Eventually become a regional player in the Electricity Trading Market

Infrastructure of the GCC Grid



Office & On – Site Activities

- Drawing designs' review for compatibility and compliance
- Tower Design Calculations
- Testing of transmission line towers conducted in Saudi Arabia



Office & On – Site Activities

- Land & Submarine Cable Route Survey between Kingdom of Bahrain and Kingdom of Saudi Arabia
- Land and sea surface soil testing



Construction Activities

- Preparation of Pier Foundation for T/L
- Transmission Lines Access Road
- Construction of Control Center in Ghunan
- Construction of Substation in Fadhili



Restructuring Efforts in the GCC Countries

- Economic boom and rapid growth in population leading to increased demand for power and water
- Realizing the financial burden to meet such demands most GCC Countries are moving towards unbundling their power sectors
- Legislation has been passed in most of the GCC countries to restructure and privatize their power sectors
- Although restructuring is moving in different pace in each country, yet the initiative to support national economies to compete globally is being achieved

Restructuring Efforts in the GCC Countries

Country	Vertically Integrated Structure	Independent Regulator	Degree of Unbundling	IPP's Allowed	Single Buyer Model	Restructuring Efforts
UAE (ADWEA)	No	No	Separate G, T & D*	Yes	Partial	Restructured
Bahrain	Yes	Independent Regulator is planned	Unbundling under consideration	Yes	Partial	Private sector investment in Generation
Saudi Arabia	Yes	Yes	Under study	Yes	Partial	Private sector investment in Generation
Oman	No	No	Separate G, T & D*	Yes	Partial	Restructured
Qatar	Partial separation	No	Separate generation co. (QEWC) Kahramaa responsible for T & D	Yes	Partial	Private sector investment in Generation
Kuwait	Yes	No	N/A	No	Yes	N/A

* G, T & D : Generation, Transmission & Distribution

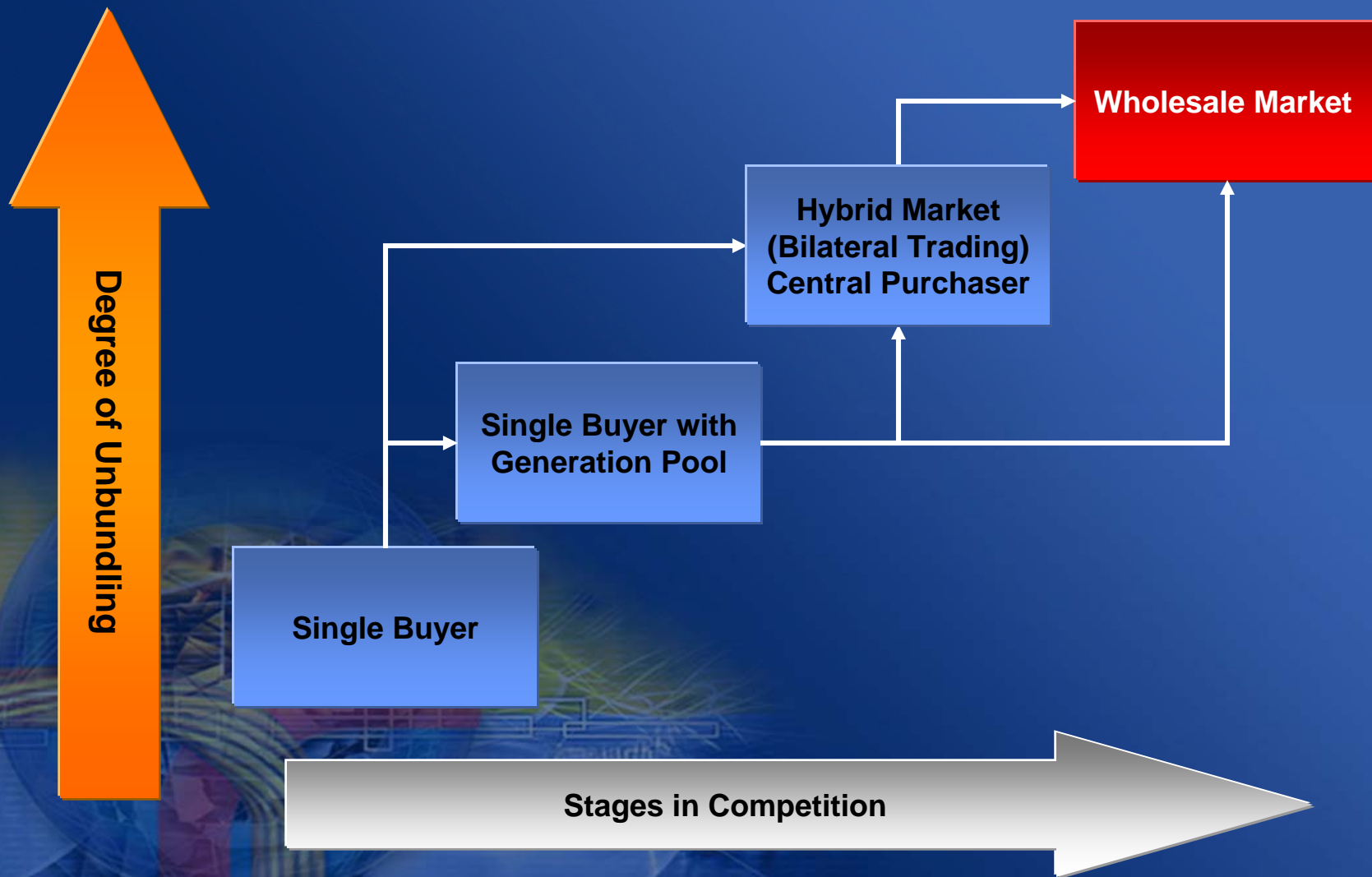
Benefits

- **The GCC power grid will reduce high long-term investment costs in the construction of generation plants by reducing the level of reserves needed in each country**
- **Provides countries and/or regions an alternative source for operating reserves and support during emergencies (blackouts or unforeseen contingencies)**
- **Can provide diversity to the available sources for energy supply by increasing system reliability through the importation of different energy resources (Hydro, nuclear)**
- **Improve the economic efficiency of power systems and improve the security of power supply**

Development of the GCC Electricity Market

- By providing wheeling services to the power sectors in the GCC countries the interconnection will:
 - enhance cooperation between the member country's utilities;
 - Become a 'Launch-Pad' for energy trading thus leading way to establishing a common market in the region
- Development of the GCC electricity market is a step-by-step approach:
 - **Allow competition at generation level (IPP's)**
 - **Establish vertical and/or horizontal separation to enhance competition**
 - **Establish open access to transmission to allow generators to sell to other countries and regions**
 - **Form a wholesale market**

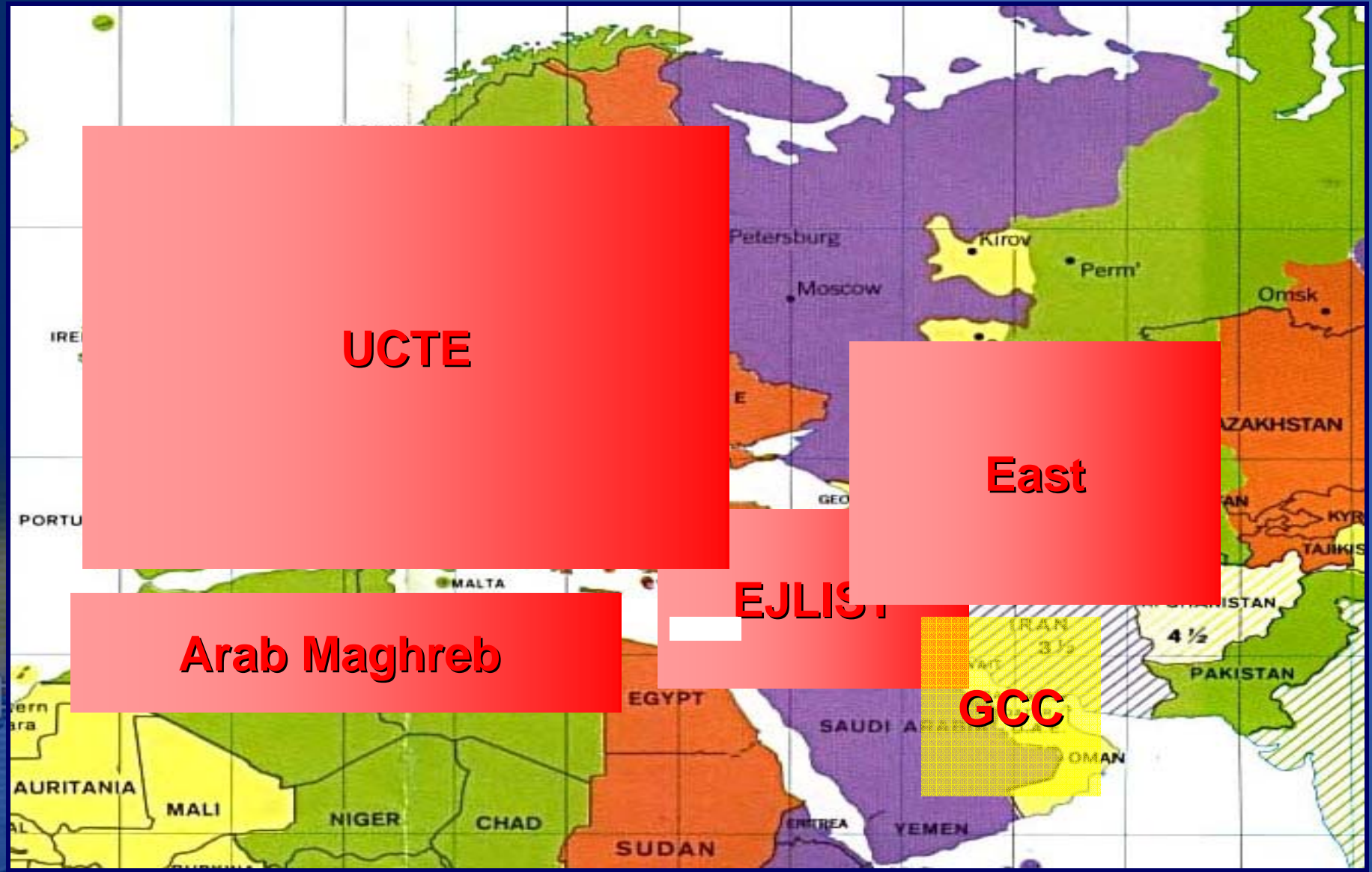
Evolution of the GCC Electricity Market



Benefits of the GCC Electricity Market

- Promote participation from local & external investors
- Encourage the development of projects with access to other markets
- Provides opportunity to establish power plants close to abundant resources (Gas, hydro, etc.)
- Act as an alternative solution to exporting of power by wheeling as opposed to exporting power by other means (i.e.) Gas pipeline
- Exchanging power with regions experiencing different peak demand periods

Opportunities for the GCC Electricity Market



Legal & Administrative Framework

• Legal Framework

- A series of rules, codes and agreements are necessary for the development of an electricity market
 - Shareholder Agreement;
 - Interconnection Agreement;
 - Power Exchange Agreement; and
 - Transmission Code

• Administrative Framework

- The development of a comprehensive organization to meet operational and functional requirements during operations and trade

Conclusion

- As a 'Back-Bone' the GCC Grid will be a fundamental step leading to a regional GCC electrical energy market
- It will promote and encourage the private sector to participate in Electrical Projects in the GCC region – engaging in trade
- Become part of a global interconnection:
 - **Pan-Arab Grid (EJLIST & Arab Maghreb Grids)**
 - **Mediterranean 'Ring' Grid (UCTE)**



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Thank You

