

# Addressing Energy Pricing for Effective Power Trade

GCCIA 2nd Regional Power Trade Forum

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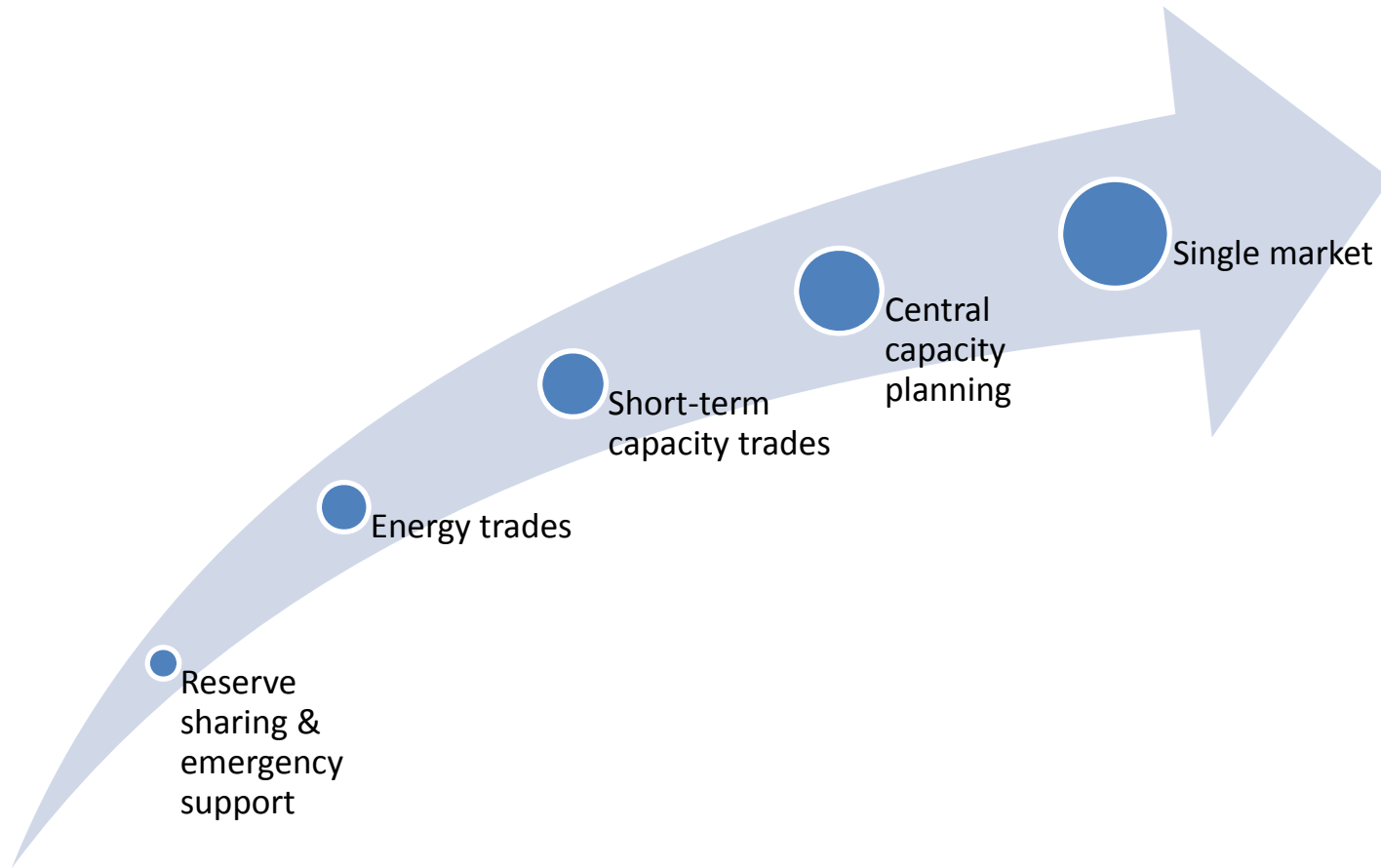
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# Outline

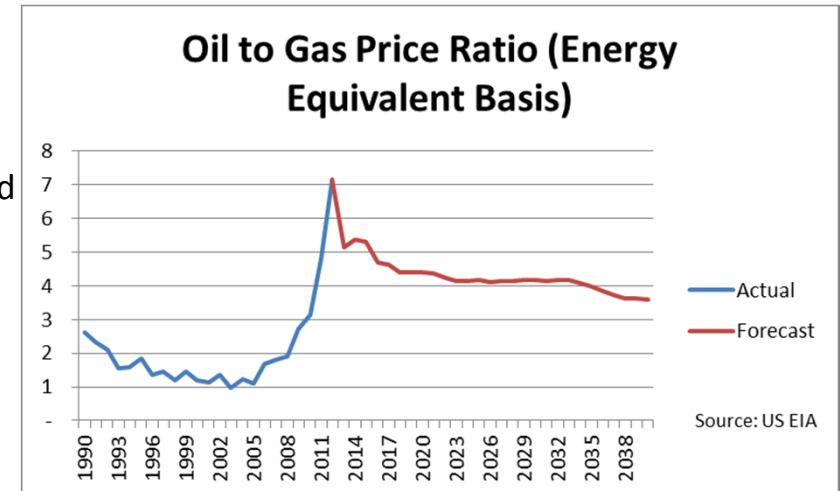
- Power market evolution
- The size of the prize
- Exploiting capacity opportunities
- Delivering economic trading – a proposal
- Conclusions

# Power Market Evolution



# The Size of the Prize

- Reserve sharing and emergency support
  - Modest savings from spinning reserve costs
  - Greater value from reduced unserved energy
    - Worth c. \$15/kWh
    - No under-frequency load-shedding since interconnection established
  - Greater value in future with prevalence of “must run” and “might run” plant – nuclear, solar and wind
- Energy trading can exploit cost differences arising from:
  - Fuel price differences
  - Technical efficiency differences
- Capacity trading could address temporary supply/demand mismatches
  - Addition of “lumpy” generation creates short-term surplus until demand catches up
  - IPPs typically still have to be paid, even if not despatched
  - Could increase revenue to single-buyer and delay capacity additions for buyer



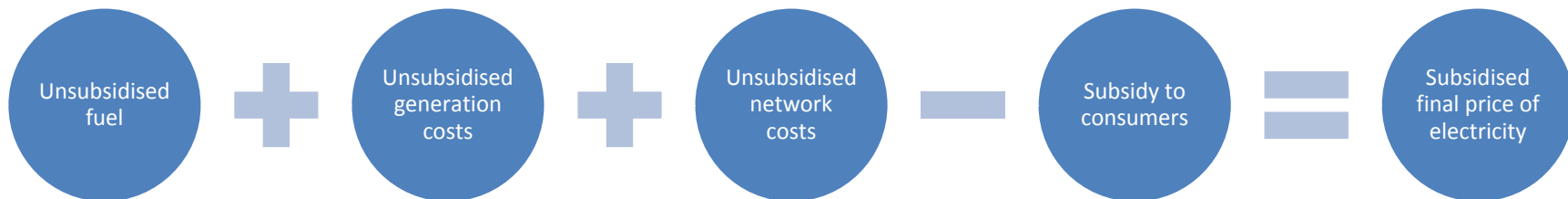
# GCC capacity needs might be some 3GW lower than for islanded systems

	PEAK DATA FOR YEAR							
	2012	2012	2012	2012	2012	2012	2012	
	GCC	KSA	KUW	BAH	QAT	UAE	Sum of five systems	Diversity Factor/Capacity Saving
Load	42950	14388	11956	2880	6243	8525	43992	98%
Modelled Capacity Required	47745	16327	13652	3418	7367	9878	50641	2896

- Diversity means GCC peak is some 1GW lower than the sum of peaks
- Planning margin required to meet given level of security falls with increasing system size

# How to kick start economic trading

- GCC moving towards series of single-buyers
  - In place in Oman and Abu Dhabi, contemplated for KSA
- Give single-buyer “economic purchasing obligation”
  - And require assessment to be based on opportunity costs of fuel
  - Objective remains adequate capacity against explicit security standard
- Single buyer can also perform selling function
  - Of surplus capacity and energy
  - Works even with renewables support mechanisms paying above economic cost
- Encourage info exchange and coordination between single buyers
  - To exploit demand/capacity mismatches
- Move towards reform of subsidy regime to eliminate subsidy within the value chain
  - Removes distortions from supply-side decisions
  - Makes it easier to target subsidy where most needed



# Conclusions

- Interconnection already providing substantial system security benefits
- Even with relatively high coincident demand, capacity requirements can be reduced as a function of scale
- Benefits will only increase as nuclear and intermittent renewable penetration increases
- Significant energy trading opportunities available from arbitrage of oil:gas price spread, high efficiency of gas-fired CCGTs, and current surplus capacity
- Firm capacity trades a possibility where temporary surpluses are created by prudent planning and exploitation of scale economies
- Necessary condition is to incorporate opportunity cost in evaluating trades
- The institutional framework can be strengthened with single-buyers taking capacity and trading decisions
  - Always delivering first for national security of supply

# THANK YOU

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