



# Gas & Renewables: Let's Be Friends ...

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# IGU represents around 95% of global gas market



 **IGU Members**

**74 Charter Members**

**35 Associate Members**



## The global energy future



- **Rising population – from 6 to 9 billion in 2050**
- **Human strive for a better life**
- **Technological progress**
- **Climate change concerns**





## Messages about gas and climate



# ***NATURAL GAS UNLOCKING THE LOW CARBON FUTURE***

- **The cleanest fossil fuel**
- **Technology is developed and easily transferable**
- **Affordable - subsidies not required**
- **Mitigate CO2 emissions at low cost**
- **Enables wind and solar energy**



## Natural Gas can enable renewable energy



### Natural Gas - Wind - Solar

Natural gas can produce clean base load support for intermittent renewables



An ideal combination



## Gas for pairing with Renewables



### Gas and Renewables can complement each other

#### Consider on the one hand:

- If you're in the natural gas industry you may not be so happy when large-scale solar kicks in on a scorching July day and takes market share that used to be the domain of flexible natural gas peaking plants;
- If you're in the renewables industry you may not be so happy with rising natural gas supplies and falling prices as you grind your way down the cost curves for solar and wind.

#### On the other hand:

- If you're in the natural gas and renewables industries and the competition is coal and nuclear, then may be pairing intermittent wind and solar with flexible and modestly priced natural gas generation may start to look attractive;
- If you're in the utility industry this may be exactly the package you want to take to your public utility commissioners - and the public who pays their salaries;
- And if you're in the environmental community and you're battling climate change this marriage between renewables and natural gas, although not perfect, may be one of the key components of accelerating growth in climate friendly electricity generation.



## Gas & Renewables: Cost Factor



**From a cost perspective, utility scale renewable energy and natural gas power plants collectively are the best option to replace or supplement traditional power generation.**

- They have different, but complementary cost profiles, that are proven, efficient and reasonably priced. Renewable power, namely wind, geothermal and large solar are characterized by high upfront capital costs with very low operational costs.
- Wind is now generally second only to natural gas technologies in affordable installed costs, which is well below other sources of clean power generation.
- Natural gas power plants have comparatively low upfront capital costs with higher operational costs.

**A key issue to address is whether natural gas is an ally or enemy of intermittent renewables, particularly solar and wind:**

- One of the challenges with renewable energy is that the sun doesn't always shine and the wind doesn't always blow. One of the logical answers of course is to build massive and cheap storage capacity, technology under development.
- Another challenge is that when the wind stops blowing or the sun stops shining, natural gas-fired generation- which is relatively simple, cheap, and clean- can come to the rescue.





# TAQA Arabia Case Renewable Energy Development



## TAQA Arabia has been actively pursuing renewable energy opportunities ...

### MedGrid

- TAQA is a founding member in MedGrid, by signing TransGreen Industrial Partnership with other 12 European leading companies

### Solar

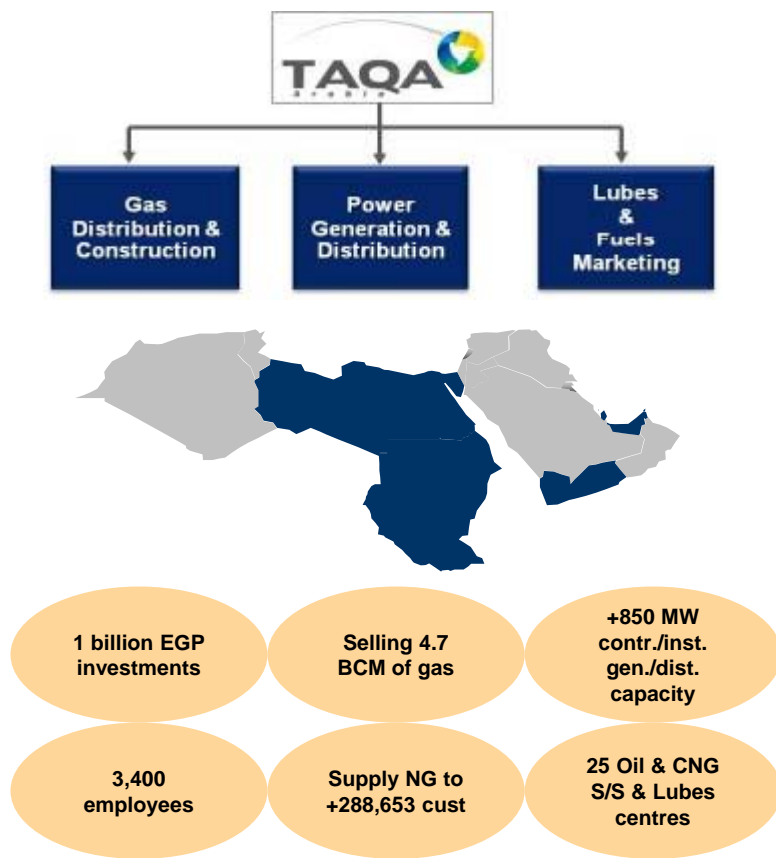
- CPV: Evaluating Solar Power applications at large
- CSP: CH2MHill was selected to conduct USTDA \$600,000 bankable feasibility study for TAQA 250 MW Concentrated Solar Power plant (to be increased 4 GW for export potential).
- Prequalification in progress in Jordan to develop a solar plant with a Korean consortium.

### Wind

- Establishing Joint Cooperation Agreement with International groups (such as GE)
- Develop 50 – 100 MW Wind farm in Egypt
- Evaluate IPP BOOT future tenders in Egypt, as well as other regional Markets for Wind Energy

### Waste to Energy

- Feasibility Study is prepared to generate power from 350 ton/year agricultural waste





## Conclusion



- It was evident that natural gas and renewables are becoming increasingly interlinked – both in the power markets and capital markets.
- On the one hand, both compete as cleaner alternatives to the continuing dominance of coal for power generation globally. Natural gas generation continues to be cheaper compared to renewable power and can compete as a vehicle to move towards a low-carbon economy for policy-makers.
- On the other hand, this rivalry can be overturned and instead strong synergies could be developed between the two. Natural gas is for both technical and economic reasons suitable to support the growth of renewables while at the same time providing a bridge to a lower carbon future.
- In the IGU, our recent strategic statement states:  
"We are keen to cooperate and share our long history expertise, with the different international and regional Renewable Energy organizations / Associations."

**Our future is ahead of us,  
so let's catch it together ...**



**Thank You**

