

*Flame 2017*

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# How should we set Gas Prices ?

*Will we discard, retain or reform  
the oil index based gas pricing?*

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# Agenda

## 1. Back to basics :

- *Initial targets of Sellers and Buyers*
- *Comments*

## 2. Key evolutions over the past 15 years

- *Shale gas*
- *External factors*
- *Regulation*
- *Gas Markets development*

## 3. Conclusion

# 1. Back to basics

## *Buyers and Sellers targets*

- **Common target :**
  - Development of the Gas Industry
- **Sellers specific target :**
  - Secure a market for their production, at a stable price sufficient to raise finance for heavy investments :  
« security of demand »
- **Buyers specific target :**
  - Ensure security of supply at a stable price competitive with other energies : « security of supply »

# 1. Back to Basics

## *Comments on the B / S Targets*

- **Underlying principle : Partnership**
  - Until the early 2000s, Industry mostly met the Targets thru Long Term SPAs, with defined price formulae using oil as an index (*no gas market*)
  - In a context of State monopolies and administered prices
  - Buyers and Sellers knew it was not perfect : many things can change over 20 years.
  - Hence an underlying principle that the SPA is not only a “Commercial Transaction” but more a Partnership between Seller and Buyer.
  - *Consequence : when circumstances affect one of the Parties, the two Partners shall sit and discuss best way to alleviate the problem.*

# 1. Back to Basics

## *Comments on the B / S Targets*

- **Is a very high price in the interest of Seller ?**
  - Risk of missing common target (developing gas industry)
  - Capex inflation
- **Is a very low price in the interest of Buyer ?**
  - Price has to be *competitive (vs other energies and competitors)*
  - Once competitive, as high as possible is nice :
    - Reasonably high energy price is necessary for Renewables.
    - Higher prices give better margin opportunities for Utilities

## 2. Key evolutions

*over the past 10 years*

- **Technology :**
  - Shale Gas
  - LNG
- **External Factors :**
  - Fukushima
- **Regulation**
  - European context
- **Markets developments**
  - Gas market indexes
  - New Players joining the Industry

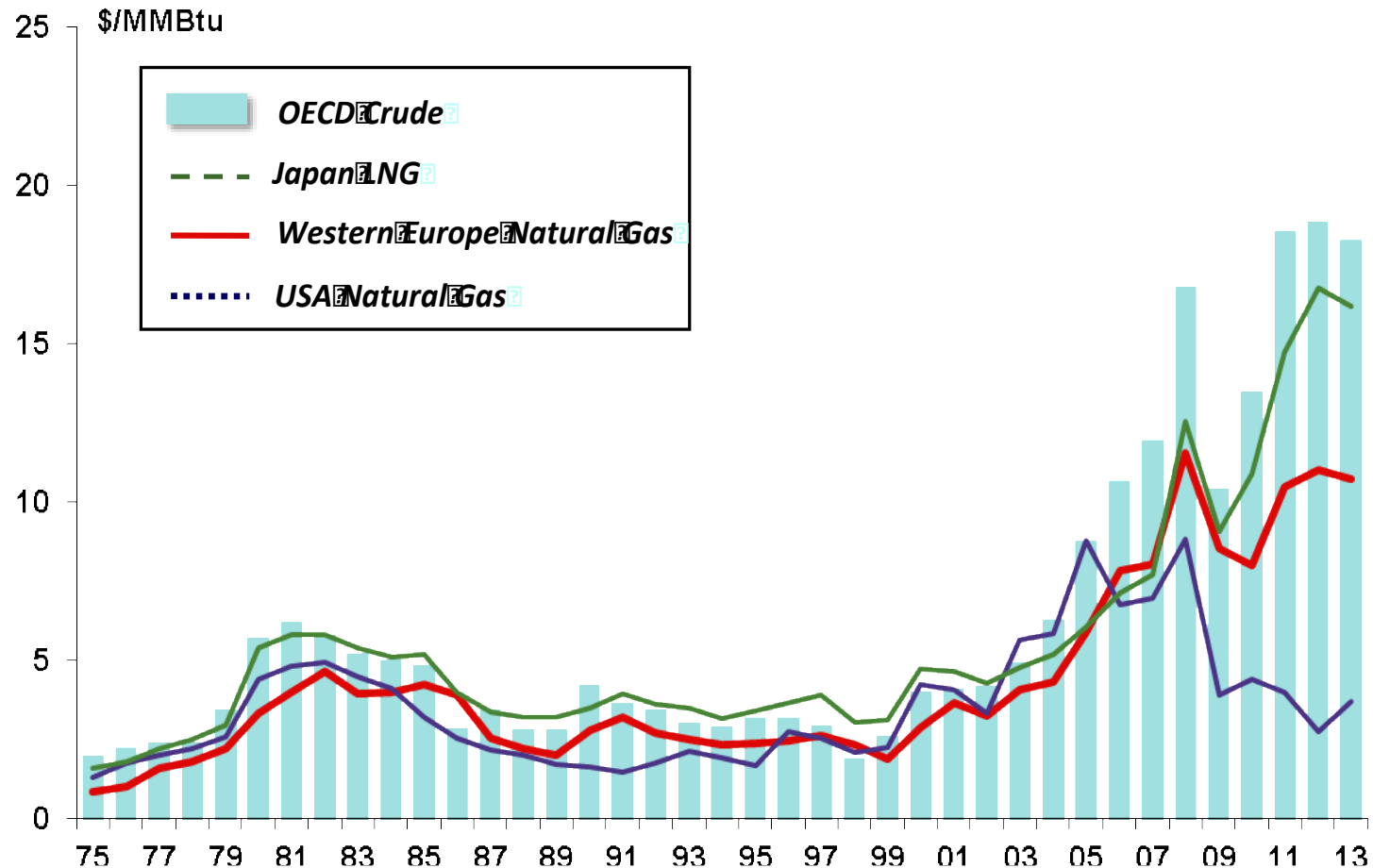
## 2. Key evolutions

### *Technology - Shale Gas*

- **Shale gas :**
  - A direct consequence of oil price above 100\$/bbl
  - Unique result :
    - Unlock huge gas reserves fairly well spread over the globe...
    - ....at a pretty low production cost
  - **Far reaching consequences for gas pricing (1) :**
    - Cost of production of the marginal gas btu is cheap (3 to 5\$/Mbtu including by-products ?), when marginal bbl is much more expensive (>60\$/bbl, ie 10\$/Mbtu ?)
    - Peak gas not an issue any more
    - Prospective largest importer, USA, turns into exporter

# 2 Key evolutions

## *Technology - Shale Gas*



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## 2. Key evolutions

### *Technology - Shale Gas*

- **Shale gas**

- **Far reaching consequences for gas pricing (2) :**

- Creation of a completely different business model for LNG production:
      - « Conventional » LNG Plants are « must run » facilities *(because of high Capex and Condensate production)*
      - US LNG Plants are « options », running or not running according to markets
      - US LNG Plants are amongst the cheapest and fastest to be built.
    - US is providing a flexible response to price signals and a de facto long term cap.

# 2 Key evolutions

## *Technology - LNG*

- **A boom in LNG technologies development :**
  - LNG technology used to be exclusively handled by a small number of IOCs/NOCs and Utilities
  - It is now mainstream, comes in very different sizes and formats and is accessible to a large number of Players
  - Retail LNG is developing, where LNG is not only a way to transport large quantities of energy, but is the end product
  - A large shipping capacity is available

# 2 Key Evolutions

*Technology - LNG*

- **LNG technology development :**
  - **Far reaching consequences for gas prices :**
    - LNG becomes a worldwide commodity
    - Number of Players increases vastly , combining existing players (IOCs, NOCs, Utilities) with new ones (Portfolio holders, Traders, End Users)
    - And a large number of independent Players happens to be one of the keys to have a MARKET.

# 2 Key Evolutions

## *External Factors*

- **Fukushima :**

- 2009 : Shale gas discovery mean that the most promising LNG import market, USA, will unexpectedly pretty quickly turn into an exporter, precisely at the start-up date of the Middle East mega-trains initially targeted at this market
- 2011 : Fukushima disaster means that not one, but all the Japanese nuclear plants, are shut down, generating unexpectedly a substantial additional LNG demand.
- LNG Producers did supply this additional demand (*a welcome extra demand vs US reductions*)
- LNG Producers maintained on the extra quantities the same oil indexed contract formulae, very high at that time, in spite of Japanese call for help to face this Force Majeure event.

# 2 Key Evolutions

## *External Factors*

- **Fukushima :**

- **Far reaching consequences for Gas Prices :**

- LNG Producers de facto chose the oil market forces rather than the underlying Partnership Principle of the LT Gas Contracts.
    - Consequences :
      - *High windfall profit for LNG Producers*
      - *Japanese Government keeps pushing for nuclear restart*
      - *New power plants built in Japan to replace nukes were coal-fired rather than gas-fired : the nr 1 target of Buyers and Sellers is missed.*

***In a time of crisis (natural disaster), the LT oil indexed contract concept proved to be inefficient because stakeholders did not apply its underlying principles.***

# 2 Key Evolutions

## *Regulation*

- **European Regulation :**
  - Europe has implemented in many areas legislation to promote open markets and free competition
  - In the gas Industry, amongst other things:
    - Cancellation of national monopolies
    - Third Party Access to gas networks
    - Prohibition of « Destination Clauses »
  - These decisions created the environment for :
    - Increased number of players
    - Increased diversification of sources
    - Development of Market Places (TTF, NBP etc...)

# 2 Key Evolutions

## *Regulation*

- **European Regulation:**
  - **Far reaching consequences on gas prices:**
    - Europe is now in a position to evidence the economic value of natural gas thru gas index generated by deep and liquid markets
    - Gas Industry is handled by private commercial companies in a context of open competition (*and not anymore by state cies with regulated prices*)
    - These Buyers did not hesitate to effectively trigger Arbitration Clauses when economic crisis led market index to diverge from oil price formulae, a deviation from the Partnership principle

***In a time of crisis (economic), the LT oil indexed contract concept proved to be inefficient because stakeholders did not apply its underlying principles***

# 2 Key Evolutions

## *Development of deep and liquid gas markets*

- **US Markets :**

- USA have been operating for ages on the basis of a gas to gas index, Henry Hub
  - Therefore, shale gas discovery immediately translated in lower gas prices, which triggered CCGT construction and coal power closure.

- **European Markets :**

- Europe now has very deep and liquid markets such as TTF or NBP
  - Share of gas index in European pricing is now predominant over oil products, even in countries who used for years oil products formulae (*eg France, from 30% index in 2012 to 70 to 80% today*)



# 2 Key Evolutions

## *Development of deep and liquid gas markets*

### Far reaching consequences (1) :

- A whole range of new players appear in addition to traditional ones (*IOC/NOC/Utilities*):
  - Portfolio Holders
  - Trading companies
  - Industrial end users etc...
- It contributes to strengthening the markets, and developing various elaborate commercial and financial products
- Key LT Contracts clauses have to be discarded or re-written (eg Destination or TOP Clauses), as they may backfire.
- Financial Institutions become more comfortable with the gas price risk, as they have been with the oil price risk

# 2 Key evolutions

## *Development of deep and liquid gas markets*

### Far reaching consequences (2):

- ***Stakeholders Targets can be met:***
  - **Common Target :**
    - Gas is better placed to be price competitive
  - **Sellers Target :**
    - Security of demand is provided by various and deep markets
    - Financial system will provide funds on the basis of gas index
  - **Buyers Target :**
    - Security of supply, as well as price competitiveness, is provided by diversification and depth of markets

# Conclusion

- Oil indexed prices have been the efficient backbone of LNG and gas industry development, as substitute to then non existent gas markets
- Stakeholders have chosen to ignore the underlying Partnership Principle on various occasions, thus disqualifying the concept altogether.
- Evolution over the past 10 years indicates that the oil index concept has recently been counterproductive for the growth of the gas industry.
- Liquid and deep gas markets are available today in US and Europe, and are being developed in Asia, providing a credible gas pricing system.

***Gas industry needs to drop oil index formula concept and switch to gas-to-gas pricing now that it is available, in order to compete efficiently in the energy business.***