Natural Gas:
Prices, Transparency and JODI-Gas

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The importance of transparency in natural gas market

- The global share of natural gas is expected to grow from 21% of global energy mix in 2012, to 24% in 2040. (WEO, 2014)
- Increasing globalization of the natural gas market by expanded LNG trade highlights a growing need for more market information on natural gas.
- Improving the availability, quality and timeliness of gas market data will contribute to reducing uncertainties, improving predictability and facilitating project planning.
Fundamental differences of gas market with oil market

**Crude Oil Market**
- Global market
- High liquidity
- Developed financial market
- Near-Competitive

**Natural Gas Market**
- Regional market
- Low liquidity
- Capital intensive infrastructure
- Different Pricing Mechanisms
International gas market structure

- **North America**: More liberalized and highly liquid; The churn ratio (ratio between traded volumes and physically delivered volumes) is about 100; geographically isolated; gas-to-gas pricing mechanism; Large capacity of gas storages; Spot Markets: Henry Hub, New York, Chicago and California; Natural gas Futures are traded in NYMEX; Shale Gas Revolution (after 2009) and oversupply of gas; Potential to become LNG exporter

- **UK NBP**: liberalized, fairly liquid, the churn ratio is about 15; Natural Gas Futures are traded in ICE: arbitrage between the spot gas traded on NBP and Continental Europe long term contracts

- **Continental Europe**: Less Liquidity; Churn index is about 3; Gas contracts largely indexed to oil products, some Hubs has been established in recent year: Belgium Zeebrugge, TTF Netherland and NGC Germany

- **Asia**: no “onshore” trading hub, gas priced largely based on state-regulated levels or long term oil linked contract for regional pipeline and LNG, with some spot LNG cargo purchases in recent years.
Behavior of prices in regional natural gas markets

Northeast Asia LNG
Southwest Europe LNG
UK NBP
US Henry Hub
The share of different pricing mechanism in gas markets

- In most of the long term contracts, price of natural gas is confidential.
- Excluding HH and NBP, price in other hubs are not available for public.

World price formation - Total Import

- Gas on Gas: 39%
- Oil indexation: 55%
- Bilateral Monopoly: 6%

Pipeline price formation

- Gas on Gas: 44%
- Oil indexation: 48%
- Bilateral Monopoly: 8%

LNG price formation

- Gas on Gas: 29%
- Oil indexation: 71%
The reasons of low level of transparency in natural gas prices

- Regional Market
- Different pricing mechanism
- limited transportation capacity
- Asymmetric information and Incomplete market
- Spillover effects of crude oil market on gas price

Requisite for inclusion of natural gas prices
Concluding Remarks

• The importance of transparency in gas market is more than crude oil market.

• Unlike crude oil market, an appropriate level of transparency in natural gas market cannot be achieved without taking natural gas prices into account.

• Conducting a mechanism to provide credible prices for natural gas in regional and global level is necessary to improve transparency in gas market.
Thanks for your kind attention