

***“Security for Natural Gas Supply in Europe  
The European gas industry facing security of  
supply”***

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**euro  gas**  
THE EUROPEAN UNION OF THE NATURAL GAS INDUSTRY

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Eurogas map

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**40 members from 25 countries:**

- 12 federations
- 27 companies
- 1 international organization

MEMBERSHIP EUROGAS



**GERG** The European Gas Research Group

## I. Introduction: FACING CRITICAL CHOICES

### 2006 a memorable year:

- Winter events and the debate on security of supply
  - Relations with producers
  - Diversification
  - Solidarity and Storage
- Green paper on energy
- External developments and relations with producers

### 2007 : the year of critical choices

- The energy policy for Europe
- The EU-Russia, and other partnership with producing countries
- Security of Supply and Gas Coordination Group

# THE MAGIC TRIANGLE

## Competitive European internal market

Regulation reflecting operational realities  
Madrid Forum  
Implementing existing regulation



### Security of supply

Growing share of natural gas  
Global dimension  
Regulatory framework conducive for new investments  
Security of demand

### Sustainable energy system

Cleanest fossil fuel  
Growing use for power generation  
New appliances

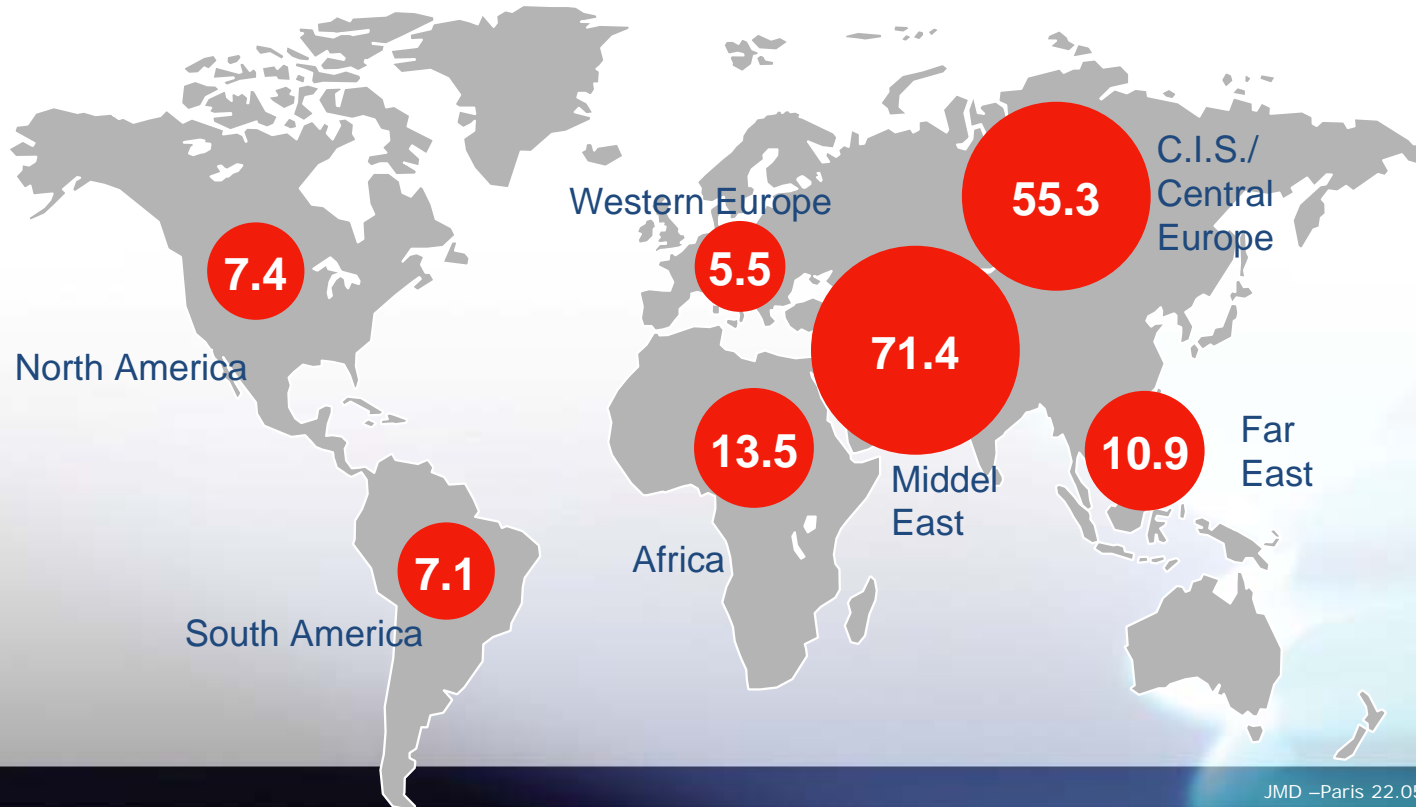
 **BUT HOW?**

## II. Facts: Impact of the global commercial and geopolitical environment on the Natural Gas business

- The new energy and Natural Gas environment has and will have a long lasting impact on public authorities and industry
- Facts :
  - Growing dependency of (W) Europe on external supply sources (80% in 2030)
  - Europe competing with other regions
  - Diversity of suppliers, is limited (Russia, Algeria, Norway, Qatar, Libya, Iran, Egypt, etc...)
  - Oligopolistic trends of producers
  - Security of Supply vs Security of Demand
  - Role of Geo-politics (Belarus, etc.)

# World Gas Reserves

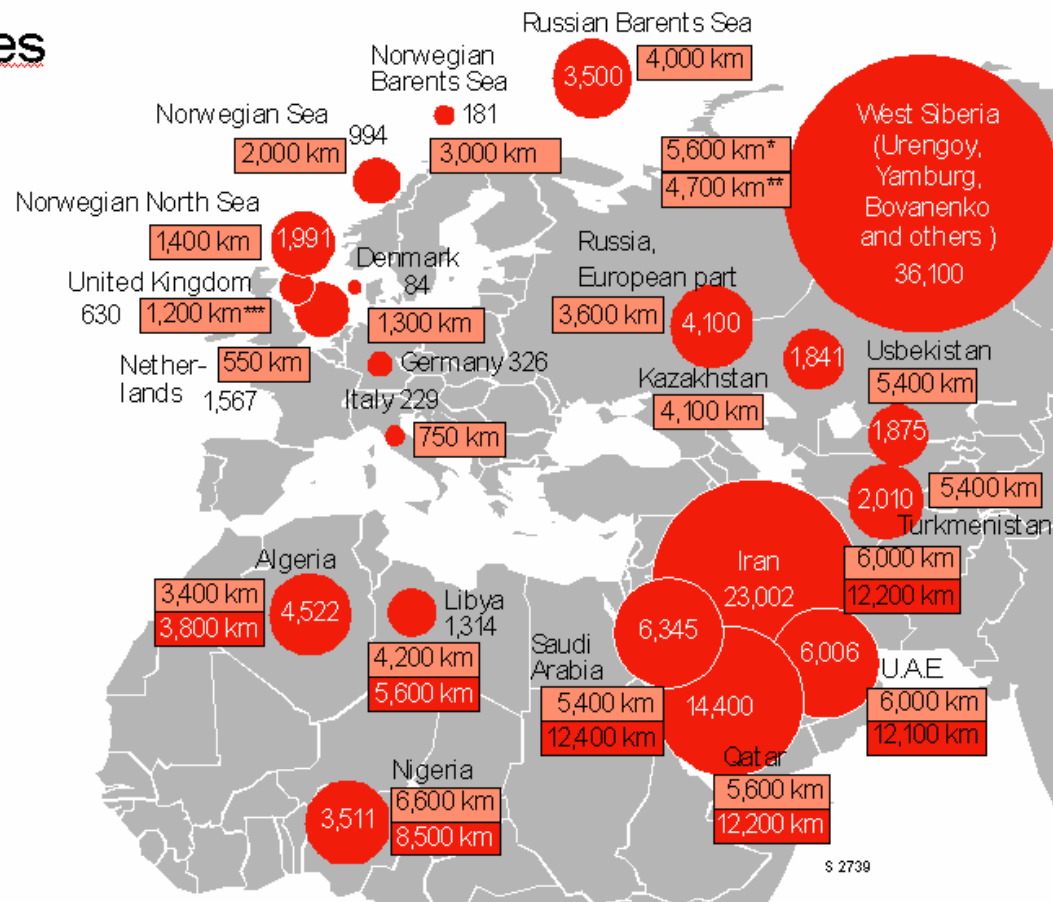
proved recoverable natural gas reserves: 171.1 trillion m<sup>3</sup>



# Natural Gas Reserves and Supply Distances

billion m<sup>3</sup>

Pipeline to Frankfurt/Main  
LNG to Wilhelmshave



Source: E.ON Ruhrgas AG

\*Yamburg Area

\*\*Yamal Peninsula

\*\*\*northern area


1 m<sup>3</sup> = 11.5 kWh

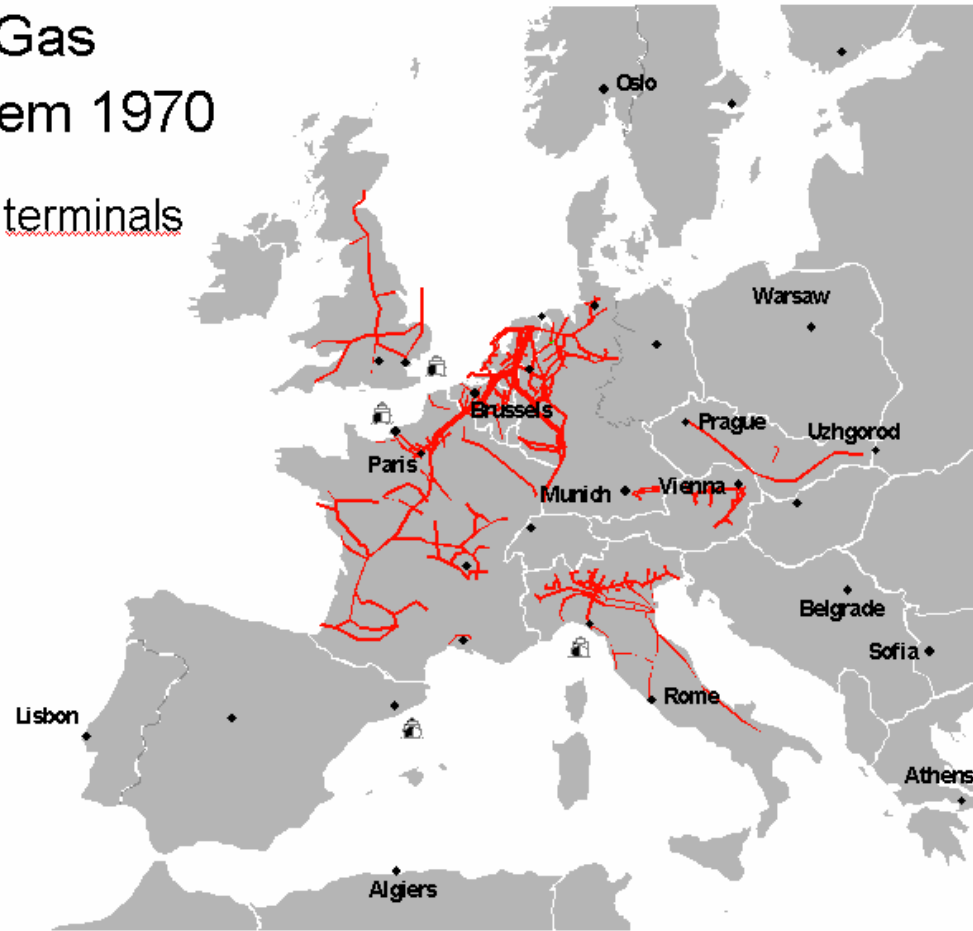
Source for natural gas reserves: Oil and Gas Journal, Norwegian Petroleum Directorate, others

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## European Natural Gas Transmission System 1970





### pipelines/LNG receiving terminals

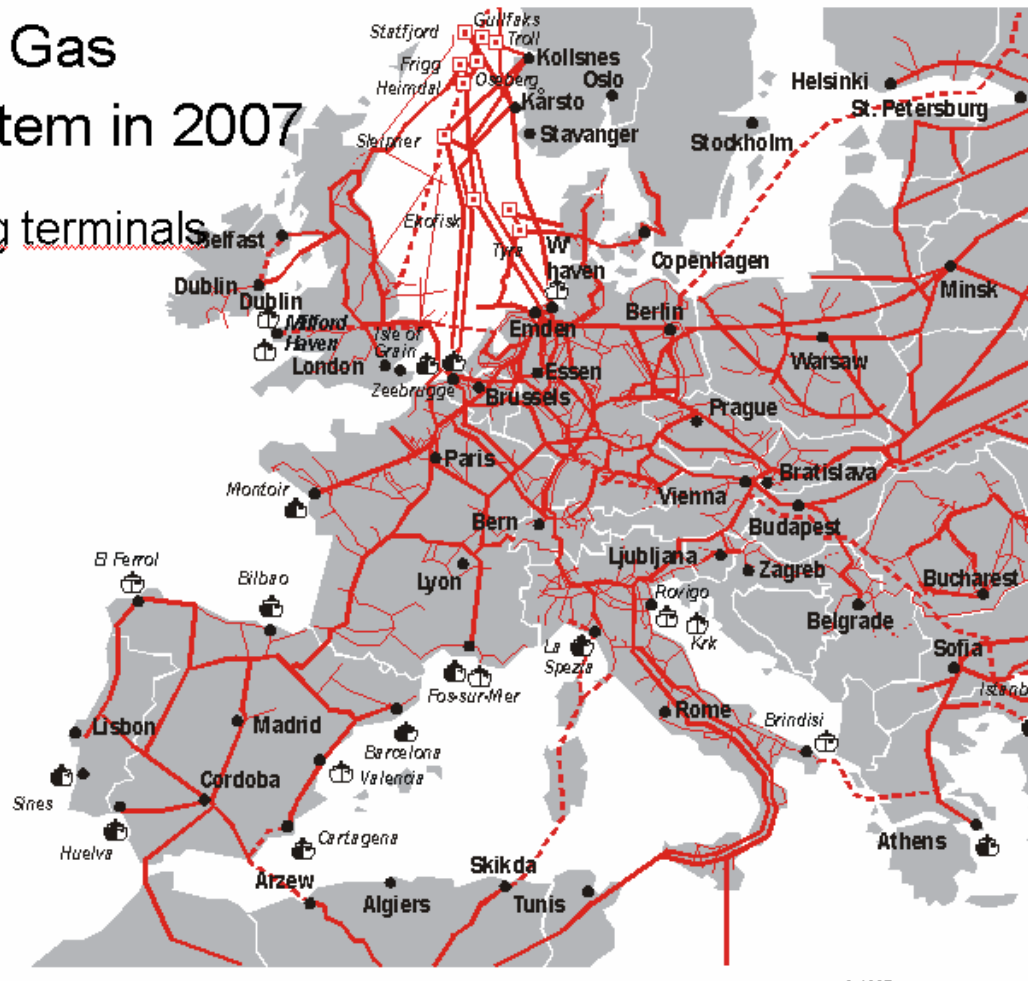
- natural gas pipelines in European grid
- other pipelines
-  LNG receiving terminals



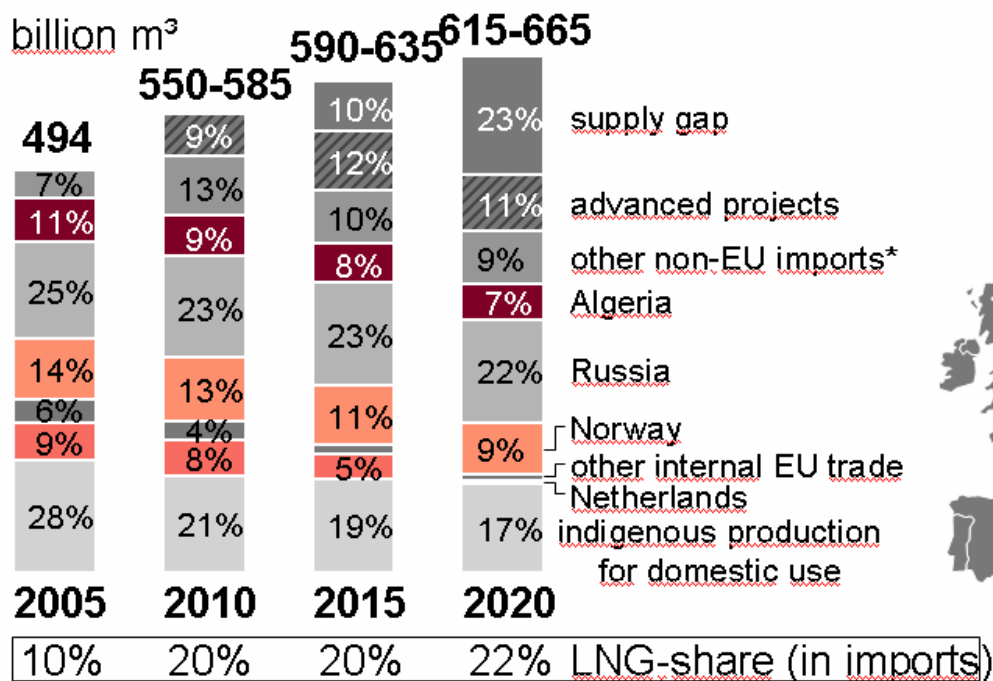
# European Natural Gas Transmission System in 2007

pipelines/LNG receiving terminals

-  existing 
-  planned or under construction 



## Development of Natural Gas Supplies in EU 27



Source: E.ON Ruhrgas AG

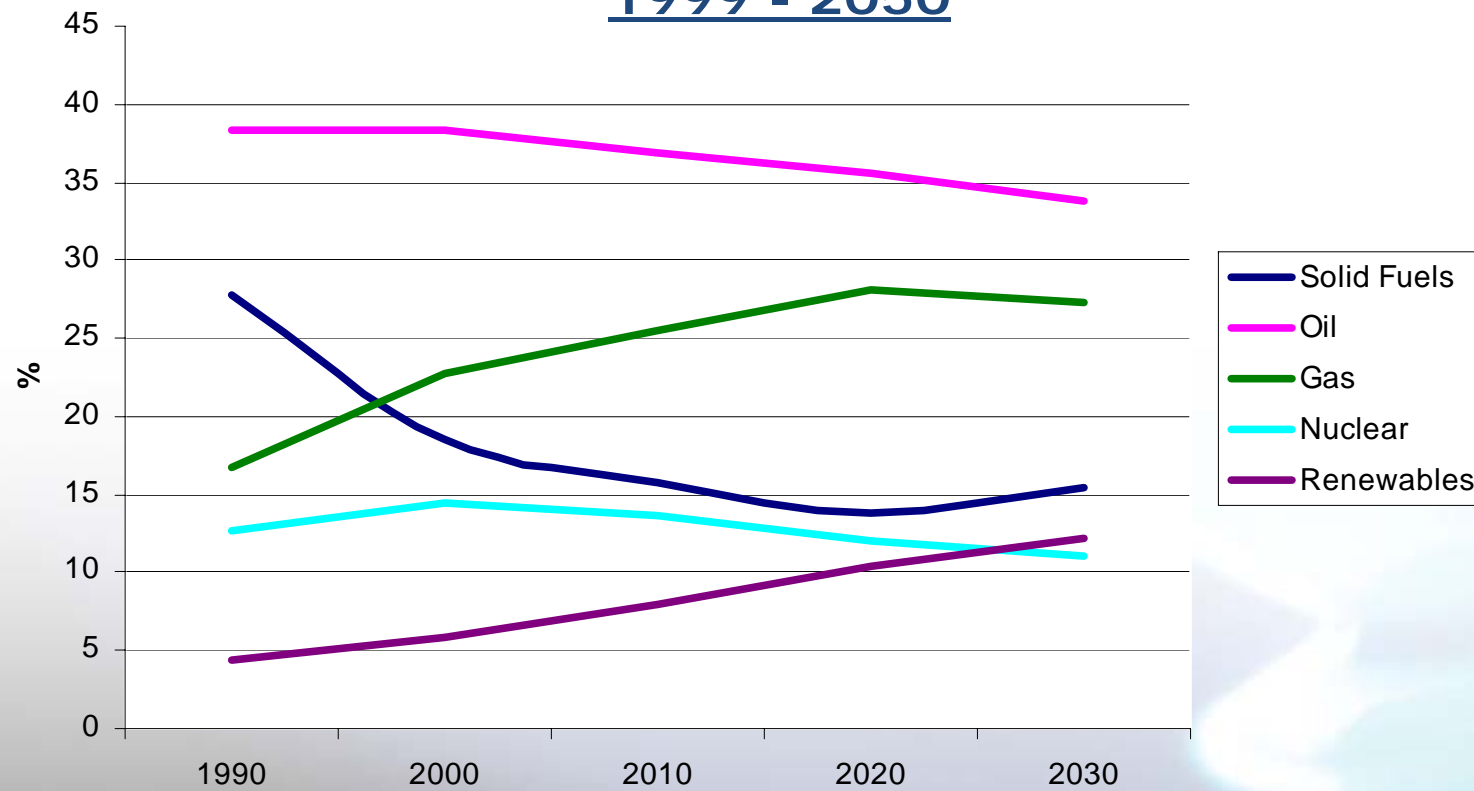
provisional data for 2005  
 \*) of which: Nigeria 3%, Qatar 3%  
 Basis for imports: Contracted volumes and prospective contract prolongations  
 Russia without volumes via Nord Stream which are included in advanced projects

Remark:  
 Malta and Cyprus are not  
 supplied with natural gas

## European gas market-major trends

- Expected growth of gas market share in Europe primary energy demand
  - from 23% in 2000 to 27% in 2030
  - almost + 40% demand increase over 2005-2030
- However – 1,1% consumption in 2006 according to Eurogas statistics
- Driven mainly by power generation
  - Uncertainties:
    - Gas prices
    - Share of nuclear and renewable energy
    - Diversification of sources for security of supply reasons – confidence in gas supply reliability
    - Cleanest fossil fuel – role in future energy mix

## Share of natural gas in EU total energy consumption 1999 - 2050



*Source: European Commission (Green Paper Background document)*

### III. Opportunities and risks for Europe future gas supplies

**Responses:**



- > Diversity of supply sources and transit routes
- > Key role of long term contracts (supply + transit)
- > The business and regulatory framework must encourage large-scale investments with long lead time
- > Security of supply combined with flexibility instruments; including **commercial instruments** (e.g. long term contracts with interruptible clauses) and **physical instruments** (ex. storage etc)
- > Development of hubs, LNG business etc
- > The market must be efficient in evaluating and aggregating demand in a timely manner
- > Regarding the situation of seasonal storage :
  - Need to mobilise all sources of flexibility including demand side management and interruptible contracts
  - Need to enhance the flexibility in import contracts to the maximum extent possible
- > Role of strategic storage ?? => recognizing national/regional approaches

### III. Opportunities and risks for Europe future gas supplies OTHER ISSUES IN RELATION TO GAS IMPORTS



- Several gas producers tend to take positions along the whole gas chain while preserving their upstream positions
- Several European energy companies seek positions both upstream and downstream
- > Eurogas views :
  - > an issue that policy makers have to consider
  - > reciprocal willingness to open markets must continue to be encouraged at political level and reciprocity on a cooperation basis
- The financial and commercial stability and credit worthiness of European gas companies will remain a key for Europe's attractiveness
  - > importance of assets
- The issue of oil/gas price indexation :
  - > Eurogas views : to leave negotiating parties freedom of choice of the price formula corresponding to their needs (as for other contractual elements)
- Recent Energy Charter Secretariat study on international pricing methodologies

## MAIN RESULTS OF ENERGY CHARTER STUDY ON INTERNATIONAL OIL/GAS PRICING MECHANISM



### Oil:

Liquid markets are **not** necessarily competitive markets

### Gas is unlikely to follow oil soon:

Lower energy density means higher specific costs for transport and storage  
=> Hindrance to a global market and to liquid market places

### Major factors for gas pricing mechanisms:

- Resource rent optimisation by resource owning country
- Import dependence => **Limited regulatory reach**
- High specificity of pipelines, tying partner for a long time together

### Long Term (Import) Contracts:

- concept for **international** gas trade developed by the Netherlands in 1962
  - Predominant part of international gas trade
  - Increasingly replaces annual compensation deals in FSU countries
- LTCs able to adapt to changes, e.g. reduction in fuel oil pegging
- LTCs a reality of international trade which can only be changed by consensus

### LNG:

- Bulk still under long term contracts (for financing)
- Now flexibility for opportunity driven changes
- Serves as price transmitter (of high prices so far), **but** no market place

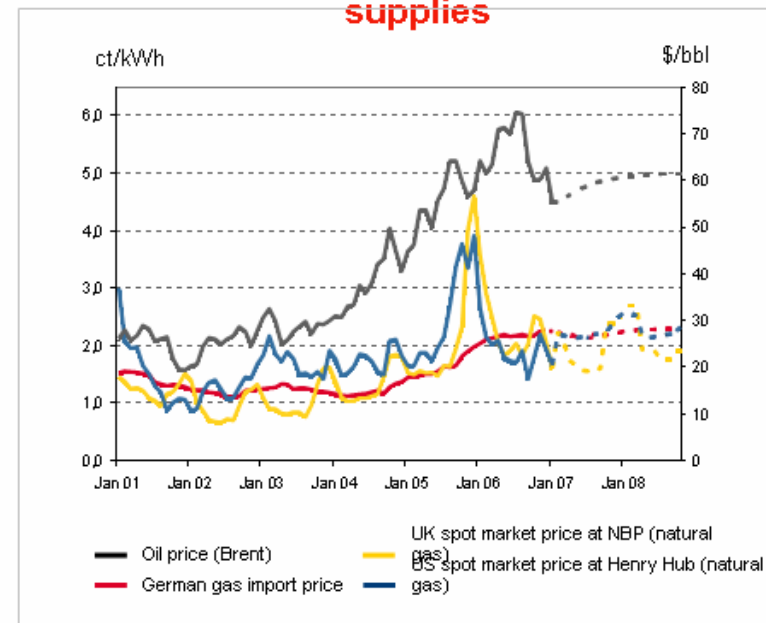
# Long Term Import Contracts and Supplies to Europe's Natural Gas Market

## Characteristics of long-term import contracts

- Private-sector contracts between producers and importers
- Long-term supply assurances by producers
- Take-or-pay commitments for importers
- Prices based on fair market value of the natural gas (pegged to rival fuels)
- Long-term agreements provide basis for financing new large production and transmission projects
- Volume flexibility in contracts allows supply in line with varying demand situations

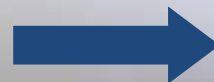
Source: E.ON Ruhrgas AG

## Indexation to rival fuels ensures competitively priced supplies



## IV. Trends at Industry level

- Need for competitive and financially strong European companies in a challenging world
- (W) European companies to expand both upstream and downstream
- Need for a supportive and stable regulatory environment (Who will invest ?)
- Achievements are considerable but stability needed for appropriate future decision.
- Need for strong and diversified portfolios :
  - Long term contracts will remain a backbone
  - Developments of hubs, spot etc...
  - Growing role of LNG
  - Importance of assets
  - Security of Supply tools (Both physical and contractual)
  - Storage and LNG terminals
- Industry to adapt : major restructuring (e.g. mergers and acquisitions...)



**AN INDUSTRY VISION**

## V. The Public policy debate

- Growing concerns on Security of Supply and diversity
- Focus on “EU monitoring”, “solidarity”, “Strategic Storage” (Role of gas coordination group – Directive 2004/67/EC)
- Growing interest/involvement of public authorities in energy issues (both “internal market” and “external policy” – need for consistency)
- Growing oligopolistic nature of production and dialogue with producers  
A «GAS OPEC»?
- Who does what ? EU speaking with one voice but tensions between approaches
  - National-Bilateral
  - Regional
  - Multilateral
  - Industry
  - Commission
  - Member States
- The need for Public Private Partnership

## Identification of some Key Issues of the EPE

- A low carbon economy
- Completion of Internal Market with open competition and “effective regulation” (by January 2009)
- Unbundling options – what objectives? Which proportionality?
- Investments
  - Who is in charge? Major infrastructures
  - Incentives
- European wide regulatory function: options
- Transparency
- Solidarity and security of supply
- External relations - Reciprocity
- LTC
  - Upstream
  - Downstream
- Rights of consumers and energy as a public service
- Others – Need for Impact Assessment

## VI. Some Conclusions: achieving the right balance

- Eurogas generally welcomed the conclusions of the EU Council of Heads of State and Governments (March 2007)
- Continuous dialogue with Institutions
- Eurogas views developed in detail
  - « Looking Forward » Position Paper
  - Letter to COREPER
  - Others
- Clear support to internal market completion
  - Effective implementation of Directive 2003/55/EC
  - More EU regulatory consistency/harmonization: role of Commission, regulators and of market players
  - TSO legal and operational autonomy: promoting credibility and effectiveness
  - Madrid process, regional initiatives, etc...
  - Keeping all INVESTMENT ROADS open
  - Unbundling proposal: need for proportionality and investment friendly approach
  - Fair Competition
- Support to entrepreneurial freedom and choice of portfolios

## Some Conclusions: Achieving Consistency

- Any future legislation should preserve ability of energy companies to:
  - Become globally competitive
  - Invest in all segments of gas chain
  - Determine their portfolios/ strategies
- If new legislation proposed it must be based on effective
  - Impact assessment and cost benefit
  - Proportionality in objectives/means
- Energy suppliers need tools and international negotiation strength and credibility
- EU External Policy to support Dialogue/Partnership reciprocity with producing countries

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## OUR COMMON CHALLENGE