Stratégie d'un importateur de gaz GDF SUEZ dans le contexte de la libéralisation du marché gazier européen
Le futur des marchés du gaz en Europe :
Stratégie d'un importateur de gaz, GDF SUEZ, dans le contexte de libéralisation du marché gazier européen

LEPI I - Grenoble
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Didier SI RE
A European context
to be examined in a global one

GDF SUEZ strategy
Climate change: a reference scenario considered as unsustainable

- Primary energy demand pattern in the reference scenario would lead to a long term temperature increase of 6°C as a result of increased GHG concentration in the atmosphere (by more than one third vs 2005)
- 97% of the projected increase in emissions between now & 2030 comes from non-OECD countries – 3/4 from China, India & the Middle East alone
- IEA has outlined two alternative scenarios corresponding to a GHG concentration target of respectively 550 and 450 ppm of CO₂-eq.

<table>
<thead>
<tr>
<th></th>
<th>Reference scenario</th>
<th>550 policy scenario</th>
<th>450 policy scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG concentration in the atmosphere in year 2200 (ppm CO₂-eq)</td>
<td>1000</td>
<td>550</td>
<td>450</td>
</tr>
<tr>
<td>Total GES emissions of CO₂-eq in 2030 (Gt)</td>
<td>60</td>
<td>48</td>
<td>39</td>
</tr>
<tr>
<td>LT temperature rise</td>
<td>+6°C</td>
<td>+3°C</td>
<td>+2°C</td>
</tr>
<tr>
<td>Investments 2010-2030 in power generation ($ trillion)</td>
<td>6,1</td>
<td>7,3</td>
<td>10,9</td>
</tr>
<tr>
<td>Additional investments in energy efficiency 2010-2030 vs reference scenario ($ trillion)</td>
<td>-</td>
<td>+3,0</td>
<td>+5,7</td>
</tr>
<tr>
<td>Carbon price ($/t)</td>
<td>30 (EU only)</td>
<td>90</td>
<td>180</td>
</tr>
</tbody>
</table>

(source: IEA, World Energy Outlook 2008)
Alternative scenarios require implementation of drastic and costly policies

- While technological progress is needed to achieve emissions reductions, **efficiency gains** and **deployment of existing low-carbon energy** account for most of the savings.

- Huge additional investment is needed in power generation as well as in energy efficiency, in both scenarios.

Impact of even the most costly scenario on climate is scary enough. But climate change is only one of many challenges facing the energy and environment industry.
Distance between oil and gas consumption and production areas is increasing

(Source: BP Statistical Review 08)
As oil market, gas market is going global … and competition will be more open

Net gas trading flows by 2030

(Source: World Energy Outlook 2006, IEA)
A European context to be examined in a global one

GDF SUEZ strategy
Midstreamer business model with secured position up and downstream and high optimization potential

- Two “aggregators” functions mutually supporting
- One “optimization” function
# Impacts of European liberalization process

## Increase of uncertainties
- Competition
- Regulatory issues

## Gas and power convergence
- On the retail market
- In power generation

## International development
- Mainly in Europe
- Less frequently outside Europe

## Industry consolidation
- E.On – Ruhrgas - (Endesa)
- GDF SUEZ
GDF SUEZ’s gas supply policy
A strategy meeting the challenges of liberalization and security of supply

A supply policy based on long term partnerships and diversification:

- **Long-term** (~20 years) contracts providing a legal framework to the trust-based partnerships with gas producers
- **Diversification**:
  - Of natural gas sources (countries and counterparts)
  - Of access modes to resources (own production, supply contracts, access to organized markets)
  - Of transit routes and delivery points
- **Flexibility**: an important share of LNG within overall supply portfolio
- **A centralized management** of gas supplies, essential to optimize supply flows and benefit from diversification of portfolio and from economies of scale

Building on long-term partnerships
Pursuing further diversification

- **Algeria** (1965)
- **Netherlands** (1967)
- **Russia** (1975)
- **Norway** (1977)
- **Nigeria** (1998)
- **Trinidad & Tobago** (1999)
- **Libya** (2004)
- **Egypt** (2005)
- **Yemen** (2009)
Long term gas portfolio

Gas long term supply portfolio
*Estimated at end-2008*

- Norway: 23%
- Algeria: 11%
- Russia: 14%
- Trinidad and Tobago: 8%
- Egypt: 6%
- United Kingdom: 4%
- Libya: 2%
- Middle East-Asia*: 12%
- Others: 5%
- Netherlands: 15%

909 TWh

Hydrocarbon production

- 2007: 42.4 Mbep
- 2008: 51.3** Mbep (+20%)

- Norway: 20% (34%)
- Germany: 22% (28%)
- Netherlands: 36% (34%)
- Others: 2% (1%)

2P reserves 2008: 704 Mboe

* including LT tolling agreements
** Including 1.1 Mboe from assets acquired from Nam (Netherlands)
Main assets
Key positions for natural gas supply

E&P assets in connexion with ENI/Distrigaz deal
- Gulf of Mexico
- Indonesia

Natural gas flows to GDF SUEZ markets
- Natural gas LT supplies
- E&P presence
- Supplies and E&P presence
- On stream production

Investor Day GDF SUEZ – Novembre 26, 2008
Global Gas & LNG Business Line
Main assets
Leadership in LNG

15 LNG tankers (+5 under construction)
Total capacity 1.8 Mm³ LNG
~5% of global capacity

Equity in liquefaction plants
Existing Regasification Terminal
Under Construction Regasification
Planning Regasification
Regas with equity without capacity
Regas capacity without equity
Regas with capacity and equity

* Penuelas: access through long-term sales agreement

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(+5 under construction)
Total capacity 1.8 Mm³ LNG
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Global Gas & LNG Business Line
Key objectives for natural gas supply

**Contracted gas**
- Supply GDF SUEZ with competitive natural gas
- Build on long term relations with gas producers
- Consolidate GDF SUEZ international leadership in LNG

**Negotiate new resources to meet Group’s gas needs and increase contracted LNG volumes**

**Pursue supply portfolio diversification**

**Increase LNG receiving capacities on Atlantic Basin**

**Seize opportunities on growing traded energy markets**
Thank you for your attention