European Gas: liberalisation, competition and security of supply

a presentation to the
Institute for Energy Economics
Tokyo, Japan
February 4, 2004
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Two Separate but Related Agendas for European Gas

LIBERALISATION AND COMPETITION:
- The EU Directive(s)
- Competition rules/merger policy
- Mergers and market concentration

SECURITY OF SUPPLY:
- Supply/demand – gas and power
- Import dependence
- Long term contracts
- EU draft Security Directive

Are these agendas compatible?
Under which market conditions?
The EU Legislative Process on Liberalisation and Security

LIBERALISATION:

- July 1998: “Common Rules” Gas Directive (following electricity) is passed; gas market opening becomes mandatory in August 2000

SECURITY:

Most Significant Barriers to Competition and Liberalisation - 2003

- Unequal level of market opening
- Inappropriate tariff structures and unexplained disparities in access terms
- Lack of transparency in access availability (national and cross-border); rigid capacity reservation and high costs
- Unnecessarily stringent balancing regimes involving overly high costs
- Concentration of gas production and imports in a few hands; consequent slow development of hubs

Progress has been significantly slower in gas than in electricity
<table>
<thead>
<tr>
<th>Country</th>
<th>% Legally Eligible</th>
<th>Large Users % switched</th>
<th>Small Users % switched</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>100%</td>
<td>&lt;2%</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Belgium</td>
<td>59%</td>
<td>N/a</td>
<td>Ineligible</td>
</tr>
<tr>
<td>Denmark</td>
<td>35%</td>
<td>2-5%</td>
<td>Ineligible</td>
</tr>
<tr>
<td>France</td>
<td>20%</td>
<td>20-30%</td>
<td>Ineligible</td>
</tr>
<tr>
<td>Germany</td>
<td>100%</td>
<td>&lt;2%</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Ireland</td>
<td>82%</td>
<td>20-30%</td>
<td>Ineligible</td>
</tr>
<tr>
<td>Italy</td>
<td>96%</td>
<td>10-20%</td>
<td>2-5%</td>
</tr>
<tr>
<td>Japan</td>
<td>40%</td>
<td>5-10%</td>
<td>Ineligible</td>
</tr>
<tr>
<td>Neth’ds</td>
<td>60%</td>
<td>30-50%</td>
<td>Ineligible</td>
</tr>
<tr>
<td>Spain</td>
<td>79%</td>
<td>20-30%</td>
<td>Ineligible</td>
</tr>
<tr>
<td>Sweden</td>
<td>47%</td>
<td>&lt;2%</td>
<td>Ineligible</td>
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<tr>
<td>UK</td>
<td>100%</td>
<td>&gt;50%</td>
<td>30-50%</td>
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The 2003 “Acceleration” Gas Directive

MAIN PROPOSALS

- Acceleration of market opening:
  - all non-residential customers - July 2004
  - residential customers: July 2007
- Fixed or approved tariffs set by a competent and independent regulatory authority
- “Legal Unbundling” of transmission and distribution networks:
  - creation of system operators (TSOs and DSOs) independent from the integrated gas business
  - separation of transmission networks from supply - 2004; distribution networks - 2007
- Regulated or negotiated access to storage and equivalent flexibility instruments

Response to the problems of implementing the 1998 Directive
EU Competition Rules - issues

- Long term (oil indexed) take or pay contracts
- Joint sales (purchase) arrangements/consortia
- Territorial sales restrictions (destination clauses)
- “Profit-splitting” (profit sharing) mechanisms

Issues were all “re-examined” as a result of: merger activity, in the context of facilitating liberalisation and competition
Long term take or pay (oil-indexed) contracts

May have the effect of reducing the numbers of players in a market by:

- Pre-empting a large market share by selling large volumes
- Erecting barriers to entry to smaller players thereby
- Lessening the likelihood of gas to gas competition

In 2003, EU Commission declared long term contracts “compatible and essential” if they do not have anti-competitive effects; but recall there are two types of long term contracts: gas and capacity
Joint Sale/Purchase Arrangements

- Restrict the ability of market players to negotiate different – short term, more competitive terms - and therefore promote market concentration
- Norwegian GFU judged to be a “cartel” under Article 81 of the Treaty (via the EEA Agreement)
- DUC Consortium broken up

LARGELY RESOLVED

Territorial Sales Restrictions (destination clauses)

- Against the Internal Market therefore incompatible with European law
- “Profit-splitting” (profit-sharing) mechanisms also incompatible

BY END-2003, LARGELY RESOLVED (EXCEPT FOR ALGERIAN LNG CONTRACTS)
### European Gas Companies: impact of legal unbundling since 2000

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>CURRENT STATUS</th>
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</thead>
<tbody>
<tr>
<td>SNAM</td>
<td>Network company is Rete Gas, ENI G&amp;P and power companies share market</td>
</tr>
<tr>
<td>RUHRGAS</td>
<td>Now part of E.ON; Ruhrgas Transport is network company</td>
</tr>
<tr>
<td>GASUNIE</td>
<td>Network company is Gastransport Services; sales to be divided (?)</td>
</tr>
<tr>
<td>DISTRIGAS</td>
<td>Network company is Fluxys</td>
</tr>
<tr>
<td>GAS NATURAL</td>
<td>Network company is Enagas; market shared with power companies/others</td>
</tr>
<tr>
<td>GAZ DE FRANCE</td>
<td>Network to be separated; partial privatisation in 2004 (?)</td>
</tr>
</tbody>
</table>

Former British Gas broke up in 1997
Consolidation into Multi-Energy Pan-European “National Champions”

- E.ON and RWE in Germany
- EdF and GdF in France
- ENI Gas and Power, and Enel in Italy
- Gas Natural and Endesa/Iberdrola/Union Fenosa in Spain

National Champion model ensures market concentration and protection from competition but is supported by many (most?) Continental European governments

AND SO: HOW MUCH COMPETITION AND LIBERALISATION WILL HAPPEN???
Security Issues for European Gas Markets

- Resource adequacy
- Supply adequacy/supply gap
- Long term contracts
- Financing multi-billion dollar infrastructure
- Import and transit dependence
- Producer/consumer dialogue
- Directive on gas security

Power generation is the big issue for supply/demand/price and security
## Resource Adequacy: proven reserves

1981-2001 Tcm (R/P Ratios)

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<tbody>
<tr>
<td>UK</td>
<td>0.7 (16)</td>
<td>0.6 (13)</td>
<td>0.5 (9)</td>
<td>0.8 (8)</td>
<td>0.7 (6)</td>
</tr>
<tr>
<td>Neth’s</td>
<td>1.6 (17)</td>
<td>1.8 (25)</td>
<td>2.0 (24)</td>
<td>1.8 (20)</td>
<td>1.6 (22)</td>
</tr>
<tr>
<td>Germ’y</td>
<td>0.2 (10)</td>
<td>0.2 (12)</td>
<td>0.2 (12)</td>
<td>0.2 (10)</td>
<td>0.3 (12)</td>
</tr>
<tr>
<td>Italy</td>
<td>0.2 (14)</td>
<td>0.2 (18)</td>
<td>0.3 (20)</td>
<td>0.3 (15)</td>
<td>0.2 (12)</td>
</tr>
<tr>
<td>Norway</td>
<td>1.3 (45)</td>
<td>2.2 (82)</td>
<td>2.3 (81)</td>
<td>3.0 (70)</td>
<td>3.8 (71)</td>
</tr>
<tr>
<td>Algeria</td>
<td>3.2 (71)</td>
<td>3.0 (57)</td>
<td>3.3 (55)</td>
<td>3.7 (49)</td>
<td>4.5 (54)</td>
</tr>
<tr>
<td>FSU</td>
<td>31 (68)</td>
<td>38 (58)</td>
<td>55 (66)</td>
<td>57 (77)</td>
<td>56 (77)</td>
</tr>
</tbody>
</table>
European Gas Supply/Demand to 2020 (conventional wisdom)

2020: demand 760 Bcm
supply gap 260 Bcm
European Gas Supply/Demand to 2020 (low power generation)

2020: demand 600 Bcm
supply gap, 175 Bcm
European Gas Supply/Demand to 2020 (low power generation)

UK versus Continental European gas deficit
Supply Adequacy: a security problem?

“Running out of gas” in 10-20 years time is not a security problem for Europe

If insufficient supply is available to meet demand (which seems unlikely) then gas prices will go up substantially which will mean that:

- gas-fired power generation will not be built
- consumers will switch to other fuels or make
greater efficiency savings

Insufficient gas – if it means switching to coal – would be a carbon problem
Power Generation: the big issues

IF GAS-FIRED GENERATION IS NOT BUILT THEN WHAT IS THE MAJOR SOURCE OF NEW-BUILD POWER IN EUROPE?

- coal - controls/CO2?
- renewables - competitiveness?
- nuclear - competitiveness/acceptability?

IF GAS FIRED GENERATION IS BUILT THEN:

- will gas security problems impact on electricity security?

Gas-fired power generation: good, bad or neutral for security?
Long Term Contracts in Liberalised Markets

 Traditional long term contract elements:
● 10-25 Bcm per annum, 15-25 year term
● High (>80%) take or pay
● Oil-linked price with lags to avoid volatility

 New long term contract elements:
● 3-8 Bcm per annum, 8-15 year term
● Lower take or pay (trading makes this less relevant)
● Price linked to spot/futures gas price or other relevant market indicator

“New” long term contracts will be dominant in liberalised European markets for many years
Financing multi-billion dollar investments without traditional long term contracts

- Up to ~$2bn gas is no different to oil refineries, car plants, etc
- But above $5bn, and especially above $10bn, gas is different

In liberalised markets, special measures/exemptions may be necessary for new infrastructure
Exemptions for New Infrastructure Projects

Under Article 22 of the 2003 “Acceleration” Directive, projects may receive time-limited exemptions from access conditions from EU and national energy and competition regulators if they:

- enhance competition and security
- would not go ahead without an exemption
- have ownership legally separate from the main system operator
- levy charges for the use of the infrastructure
- are not detrimental to EU or national competition or regulation

All UK interconnectors and LNG projects likely to be granted exemptions
Shtokman and the Baltic (North European) Pipeline
$15-20 bn
European Import Dependence, 2000: an established phenomenon

<table>
<thead>
<tr>
<th></th>
<th>EURO 33*</th>
<th>EU15</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 % dependent</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>&gt;95% dependent</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>20-83% dependent</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Self-sufficient/net exporters</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

*EU+other continental European countries, including Baltics, excluding other FSU countries
Transit Routes: Central/Northern Europe
Producer/Consumer Dialogues Between EU and (Oil and) Gas Suppliers

- EU-Russia “Energy Partnership” 2001 – NEP/Shtokmanovskoye is named as a potential cooperation project
- Association Agreement with Algeria EU-Mediterranean Free Trade Agreement to be signed by 2010
- EU agreement/dialogue with Caspian countries under way

EU-Russia Dialogue to serve as a “template”

OBJECTIVES:

- Define responsibilities of market players
- Implement procedures to safeguard household customers in the event of:
  - a partial disruption of supplies
  - extreme cold during peak demand period
  - high gas demand on a 1:20 winter
- Establish a Gas Coordination Group (chaired by the Commission) to coordinate national measures in the event of a major supply disruption

Still under discussion
Conclusion: compatibility of agendas?

COMPETITION needs many players but growing concentration of the industry:
- mergers and alliances
- determination of governments to create European-wide “national champions”

means small number of mega-companies

LIBERALISATION means cost-cutting and risk-taking but strong re-emergence of a security agenda could involve:
- command and control (rather than market) measures
- additional – potentially costly – measures which may undermine cost-reduction effects of liberalisation

Contradictory agendas make for uncertainty
Market/Price Uncertainty

- New dominant companies are multi-energy giants looking to build new gas-fired power generation
- New gas-fired power generation needs lower gas prices
- Lower gas prices can be achieved through gas/gas competition
- But suppliers – especially non European suppliers – are against gas/gas competition

European gas short/medium term outcomes:
1. If (when?) liberalisation and serious gas to gas competition arrive driven by gas surplus, prices will fall;
2. Serious security incident could undermine competition/liberalisation