Promoting choice and value for all gas and electricity customers

Moving towards global energy markets

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Long term European direction is clear

EU energy groups raided by regulators

■ Brussels steps up oil and gas antitrust probe

Dawn raids on energy groups in EU inquiry

Energy purge

FINANCIAL TIMES

Brussels turns heat up

EU energy trade has 'serious faults'

Brussels to act over EU energy markets

competitor. Throughout, profession. Industry experts stitute or relinquish his com- could benefit his companies. report in the next few days.

Brussels raids energy firms in gas inquiry

Timing is key for GB customers

The road ahead

Short term

➢Potential for another challenging winter ahead

➢Will new capacity equal new gas?

➢Increased transparency?

Medium term

➢Further decline of indigenous beach gas

➢New and varied investment coming on stream

➢Increased transparency

Long term

➢ Single EU energy market

➢Efficient interaction with global energy markets

Key question – when will it be the 'long term'?

Short term - looking ahead to next winter

Developing the winter outlook

Historical use of forecasts for the winter ahead

➢ Supply and demand outlook

Evolving market conditions – considerable uncertainty

➢ European supplies?

➢ Global supplies?

➢ New investment – timing?

Need new approach

Need to reflect dynamic nature of market

➢ Develop scenarios

➢ Incorporate assessment of risk

➢ Feedback is key

Winter 2006/07 scenarios

Scenarios should reflect interactions between:

- Different supply sources – new infrastructure
- Evolving demand assumptions – degrees of price response?
- Gas-Electricity market – carbon?

Low-High case scenarios – consider contributing factors:

- Political landscape, weather, construction risk etc

EU scenarios:

- BBL/IUK/Norwegian gas

Global scenarios:

- Grain/Teesside GasPort

Promoting choice and value for all gas and electricity customers

Global scenarios

UIOLI is an issue...

Experience of Winter 2005/06

- Need effective release of slots
- Transparency of flows is key

Evolving market...

Key uncertainties

- Forward prices suggest imports to GB but...
- US and Spanish expanding capacity rapidly
- Last winter US and GB prices flipped

Effective UIOLI arrangements are key

- Ofgem continuing to work closely with Grain parties to ensure UIOLI arrangements are effective

European scenarios

Transparency is an issue...

Experience of Winter 2005/06

- Difficult to understand flows from Europe

Info not available...

Or where it is available...

- Highly aggregated
- Lack of timeliness
- Not available to everyone

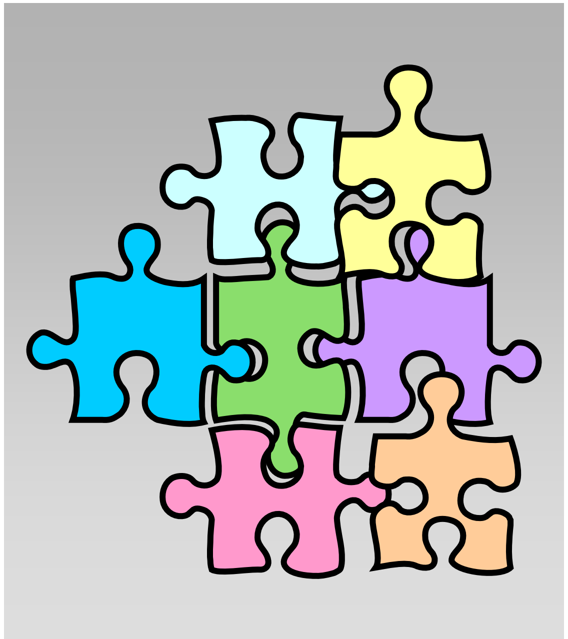
Lack of transparency – hard to develop informed scenarios

- Important to understand EU interactions

  – large cost to GB customers

- Ofgem meeting with Commission and key EU players to get answers

European picture



Ofgem has met with:

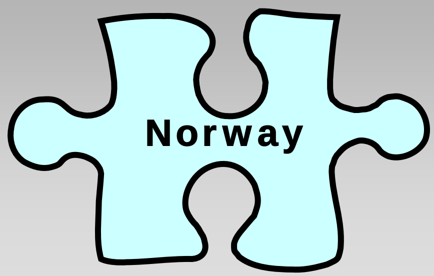
- EU Commission
- Key companies

- Experience of winter 2005/06
- Expectations for coming winter
- Implications for 2006/07 and beyond

Information key to build better understanding of EU picture

- Enable market to develop own views on likely scenarios

Norwegian picture



Winter 2005/06

- Offshore reliability overall very high

But…

- Continental contracts given priority over flows to GB

Winter 2006/07?

- No new gas but Langeled removes transportation constraint – more gas during peak winter months?
- Potential for exports to be constrained – gas quality issues?
- Langeled – new gas or diversion of existing gas?

Beyond 2006/07?

- Snohvit LNG export terminal expected 1 Dec 2007
- Increased production capacity - Upgrade to Troll & start of Orman Lange

Dutch picture

Winter 2005/06

- Capacity constraints limited flows to German – Belgian border
- No reverse flow at Zelzate – can only reduce imports

Winter 2006/07?

- BBL pipeline on target for Dec 06 – 2nd phase Mar 07
- New gas or diversion of existing gas?
- Dutch I&C and power stations short of gas – compete with GB?

Beyond 2006/07?

- Compressor at Zelzate will enable reverse flows by 2008
- GWWL pipeline – increase East-West flows

Belgian picture

Winter 2005/06

- Gas quality/protecting storage
  - limiting flows?
- I&C customers interrupted during cold snap

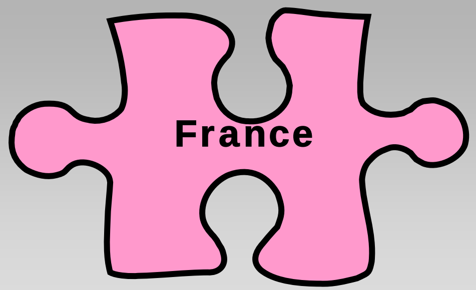
Winter 2006/07?

- IUK upgrade – on track for 1 December
- Potential for exports to be constrained – gas quality/capacity issues?
- Limited storage and need to maintain stocks
- LNG supplies impacted by end of Algerian supply contract?

Beyond 2006/07?

- Investment to increase supplies form Germany, Netherlands and LNG

French picture



Winter 2005/06

- New LNG supplies from Egypt
- Loss of Algerian LNG supply
- I&C customers interrupted during cold snap

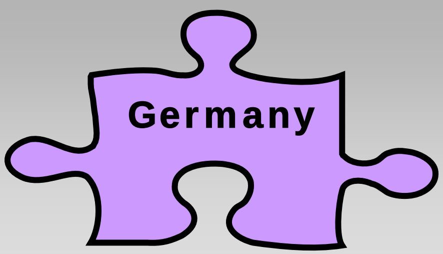
Winter 2006/07?

- New LNG terminal at Fos Cavaou (8.25 bcm/an)
- Improvements to transparency of storage stocks
- Storage stocks preserved in early winter?

Beyond 2006/07?

- Fourth LNG terminal at Le Verdon (2010+, 2-3 bcm/an)

German picture



Winter 2005/06

- E.ON exhausted storage stocks
- First interruption of I&C customers
- Lack of transparency

Winter 2006/07?

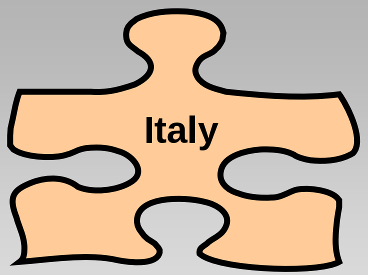
- Stegal capacity upgrade – double E-W flows
- Large storage capacity =20% annual demand…

…39% owned by small municipalities – no PSOs but will they behave commercially?

Beyond 2006/07?

- Northern Gas Pipeline linking the Baltic coast with Russia (2010)
- Pipeline linking Austria and France – free up capacity for GB flows?

Italian picture



Winter 2005/06

- Demand 7% higher since winter 2004/05
- Cold snap - unwillingness to access strategic stocks...
- Led to government decree to limit gas consumption

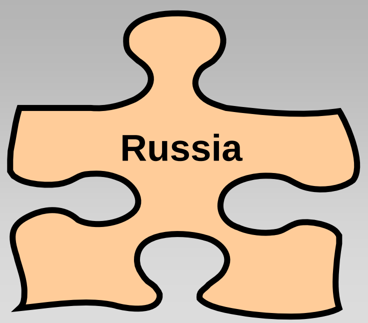
Winter 2006/07?

- Continue to be reliant on Russian supplies

Beyond 2006/07?

- New LNG terminals at Brindisi (2008) and Rovigo (2007)
- New pipeline connections with Algeria and Greece

Russian picture?



Winter 2005/06

- ➢ Russian supplies have significant effect on European gas markets
- ➢ Ukraine dispute:
  - Reduced flows in Italy & France
  - Knock on impact on available gas for GB

Winter 2006/07?

- ➢ Potential for Ukraine dispute to flare again?
- ➢ Dispute with Turkmenistan – may reduce sales to Gazprom?
- ➢ Gazprom transportation constraints
- ➢ Risk of interruption to supplies which may impact on IUK flows?

Beyond 2006/07?

- ➢ Ongoing relationship with Russia important – key supplier to EU

Medium term – increasing globalisation

Medium term issues

Scenarios become increasingly important

- New infrastructure – increased links to EU/global markets

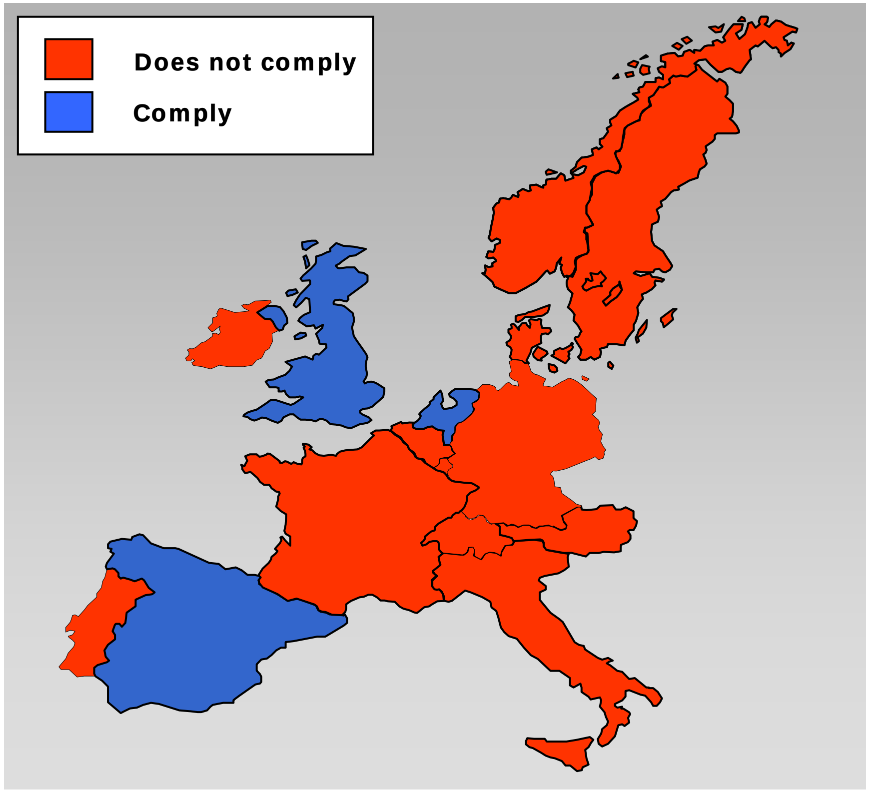
Key issues:

- Information transparency – will we see improvements ahead of winter 2006/07?
- New infrastructure – will new capacity be fully utilised?
- Increased role for LNG – UIOLI arrangements key
- Will gas quality issues be a supply constraint?

Wider market interactions

- Moving to regional European markets
- Links to global markets for LNG supplies

Transparency in Europe



Gas regulation 2006

➢New requirements on publication of information

➢Publish information on available capacities

➢Clear and meaningful

➢Accessible to all

➢ERGEG review of all transparency requirements H2 2006

Transparency in Europe – storage information

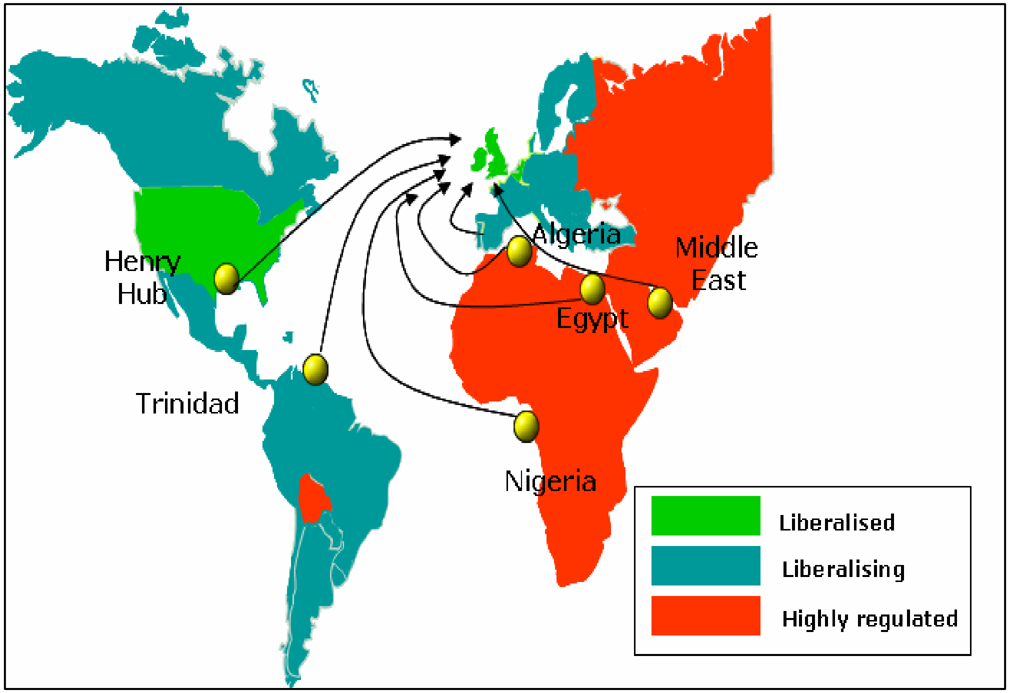
ERGEG Guidelines for Good TPA Practice for Storage System Operators

➢Voluntary provisions relating to transparency

Capacity data	Storage utilisation
Only 13 out of 40 compliant	Only 1 out of 40 compliant

centrica storage

Part of global LNG market



Increasing diversity of supplies to GB

Growing importance as a supply source – up to 7 facilities by 2010/11

Scenario planning more important as number of terminals increases

Gas quality
– an issue for the medium term?

GB gas quality specifications differ to those in Europe

- No significant impact upon gas supplies to GB to date

Increasing diversity of GB gas supplies – net 'energy importer'

- LNG/European supplies

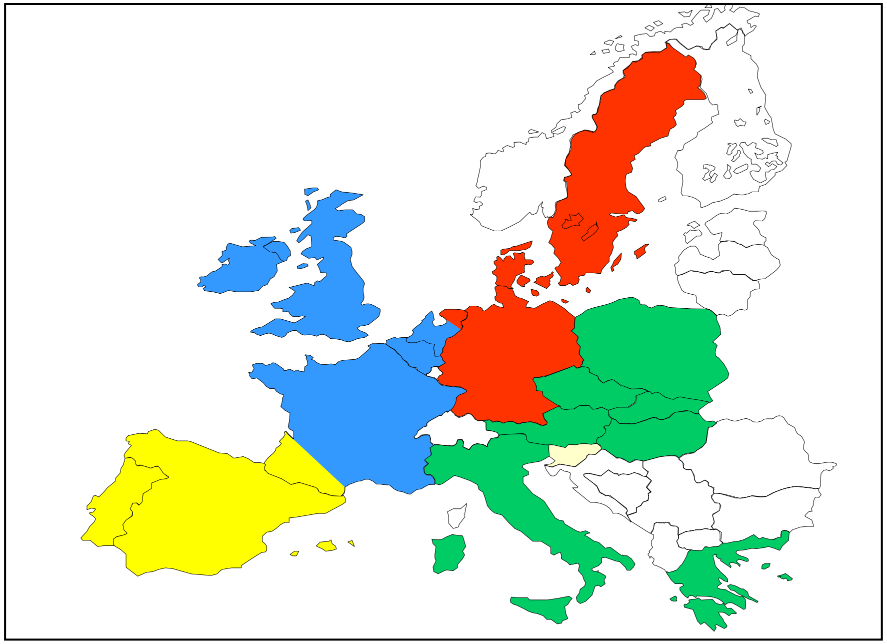
NG technical feasibility study:

- Gas blending not an option at Bacton for winter 2006/07
- Need to consider other options/terminals
- Blending/ballasting options - more important going forward
- Need to maintain safety – but increase flexibility in range of gas GB can accept

Need effective implementation of 'polluter pays' principle

Regional Gas Markets

Foster development of regional markets as a stepping stone to a single European gas market



4 regional gas markets identified

- North
- North West
- South
- South-South East

Regional Gas Markets Initiative

Goal – practical steps to increase

- Market liquidity/integration
- Competition
- TPA efficiency
- Security of supply

Action plan for each region

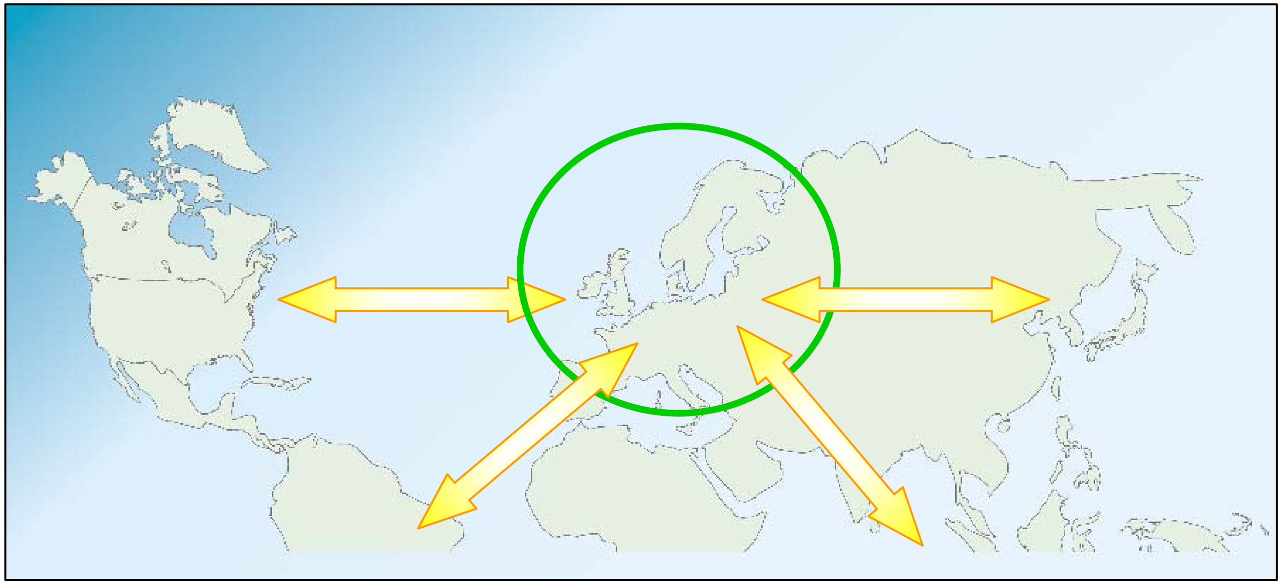
Due November 2006

Step in right direction….but key issue for GB customers:

When will a single regional market become a reality?

Long term?

Long-term view



Single EU Energy market

- Dynamic market
- Efficient interaction with global markets

Key issue for GB customers

- When will this future become a reality?

Where to next?

What is Ofgem doing?

➢ Keeping up pressure on EU front – ongoing open dialogue

➢Pushing for steps forward - information transparency

- Working with customers/key players – what are the top priorities/quick wins?

- Working with EU Commission and key workgroups

What can industry do to get there faster?

➢ Keep up pressure - facilitate change

- Continued dialogue with Ofgem - make your views heard in Europe

- Highlight issues - provide examples/information

Short term | Medium term | Long term

Energy Review – key outcomes

Ensure energy supplies are secure

- Manage increased dependence on gas imports
  - -Promote open and competitive markets
  - -Positive UK market framework for investment
  - -Maximise recovery from the UKCS
- Ensure timely investment in generation capacity and networks

Minimise carbon emissions of energy supplies

- Facilitate new nuclear stations
- Steps to remove barriers to carbon capture

Energy Review – Ofgem's Views

Welcome commitment to markets and effective independent regulation

Ofgem is engaged in developing energy networks for the 21st Century

➢Welcome proposals to streamline the planning process

EU focus is key to achieving review's goals

➢Develop market based proposals to reduce emissions

➢Remove barriers to the development of transparent and competitive markets in Europe

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