Winter Consultation 2007/8
June Update

Peter Parsons

Ofgem Contingency Event 17th July 2007
Growing capability – Increasing uncertainty

- **Looking Back – Winter 2006/7**
  - New infrastructure
  - Mild winter – market not tested
  - Low prices
  - Low demand but recovery in power generation sector

- **Looking Forward – Winter 2007/8**
  - Further infrastructure investments
  - European market interaction
  - LNG – a world market
  - Do pipes mean gas?
  - Will demand bounce back?
  - Weather
2007/8 Demand Update

- 2006 price forecasts assumed some reduction in gas prices, notably wholesale
- Hence with some fall in gas prices, forecast demands are similar to those forecast in 2006 for 2007/8
- No restricted demand forecast this year
- Gas is again the fuel of choice for base load power generation except for the winter, hence limited opportunity for gas to provide demand side response
- Validation of demand methodology vs historical data provides confidence in approach used
### UKCS Forecast

<table>
<thead>
<tr>
<th>Peak (mcm/d)</th>
<th>2006/7</th>
<th>2007/8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forecast</td>
<td>Highest</td>
</tr>
<tr>
<td>Bacton</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>Barrow</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Easington</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Point of Ayr</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>St Fergus</td>
<td>94</td>
<td>95</td>
</tr>
<tr>
<td>Teesside</td>
<td>30</td>
<td>3</td>
</tr>
<tr>
<td>Theddlethorpe</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>267</strong></td>
<td><strong>249</strong></td>
</tr>
</tbody>
</table>
UKCS

- 90% supply availability used for operational planning
- High swing fields did not flow last winter
- UKCS decline continues but relatively small
Norwegian Imports

- Ormen Lange still reported to be on schedule for October delivery
- Flows through Tampen Link excluded
- Langeled imports assumed at 45 mcm/d to enable near full volumes from Rough. Higher volumes may impact other Easington deliveries
BBL Imports

- BBL forecast to flow at near flat conditions next winter to satisfy Centrica contract (5 bcm winter, 3 bcm summer)
IUK Imports

- Further expansion planned to 74 mcm/d
- Expected to operate as marginal source of supply, following price differentials
- Expected to have higher import potential post December
LNG Imports

- New deliveries expected this winter from Milford Haven
- Dragon expected Q4 2007
- South Hook expected Q2 2008, hence excluded from forecasts
- Grain expected to operate as in 2006/7
- Due to lower gas price, Teessport not expected to operate at base load
- All LNG is subject to risk of cargo diversion to US and other markets

UK & Continent gas prices now above US for next winter
Non-Storage Supplies

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UKCS</td>
<td>240</td>
<td>252</td>
<td>224</td>
<td>227</td>
</tr>
<tr>
<td>Norway</td>
<td>48</td>
<td>104</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>IUK</td>
<td>36</td>
<td>74</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>BBL</td>
<td>14</td>
<td>41</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>LNG</td>
<td>13</td>
<td>69</td>
<td>46</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>350</td>
<td>546</td>
<td>402</td>
<td>392</td>
</tr>
</tbody>
</table>

• Whilst latest view for 2007/8 suggest much higher non-storage supplies than for last winter, considerable supply uncertainty exists:
  • UKCS – lower supply availability, no flow from high swing supplies
  • Norway – Ormen Lange delayed, higher flows to Continent
  • IUK – exports due to well supplied UK
  • BBL – lower flows due to renegotiated contract with Centrica or virtual exports
  • LNG – commissioning or NTS delays, diverted cargoes

• Besides down side risk there is also upside possibilities for all sources

• For assessment consider a +/- 30 mcm/d supply range

nationalgrid
Storage

- For next winter we anticipate higher storage availability through:
  - Hole House Farm – increased deliverability
  - Aldbrough – new salt cavity storage, phased build-up of capacity expected
Transportation Issues

- Supply Pattern
- Trade & Transfer
- Easington
- Milford Haven

A  Isle of Grain to Shorne to Gravesend pipeline (dia. 900mm)
B  Kings Lynn to Wisbech pipeline (dia.1200mm)
C  Barton Stacey to Lockerley pipeline (dia. 900mm)
D  Easington to Ganstead pipeline (dia.1200mm)
E  Asselby to Pannal pipeline (dia.1200mm)
F  Wormington to Sapperton (dia 900mm)
G  Milford Haven to Tirley (dia 1200mm)
H  South West Reinforcement Projects (600mm)
Balance - Peak Periods

- Peak day
- Very cold week
- Very cold month

- Short
- Medium
- Long
- IUK
- LNG Imports
- BBL
- Norway
- UKCS
- Demand
Demand-Supply Balance - average winter

![Graph showing demand-supply balance over days with categories: Domestic, Other NDM, Supply Range, Revised View.]
Demand-Supply Balance - 1:50 winter

- DM
- Other NDM
- Domestic
- Supply Range
- Revised View
Demand Turndown Requirements

- Improved gas demand-supply balance has reduced the requirement for demand side response from what we assumed necessary last winter.

  - With increasing import dependency the swing in gas consumption by CCGT stations continues to be key in achieving gas supply/demand balance.

  - Little or no need for other large users to provide a demand response under most conditions.

  - There will be a need for other users to provide a significant response at times of both cold weather and a low gas supply scenario.
Initial Assumptions - electricity

- 0.7 GW new renewables in Scotland
- No new large stations in E&W
- Reduced output at Hinkley Point and Hunterston
- No demand growth – forecast peak 60.8GW
- Plant margin 24%
- Assuming 30% wind, margin is 22%
- LCPD – 1 January 2008 – no material impact
- No short-term mothballed plant
Merit Order 07/08 – Electricity

Settlement Period

MW

Pumped reserve
OCGT
Gas Marginal
Distillate
Pumped Storage
Oil
Coal
Gas Non-NTS
Gas Baseload
Renewables
French Interconnector
Nuclear

nationalgrid
Summary 2007/8

- Demand-Supply Balance Improved
- Uncertainties:
  - Weather
  - Will demand bounce back?
  - Further infrastructure investments
  - European market interaction – electricity and gas
  - Do pipes mean gas?
  - LNG – a world market
- Can’t afford to be complacent
- Feedback by 3 August 2007