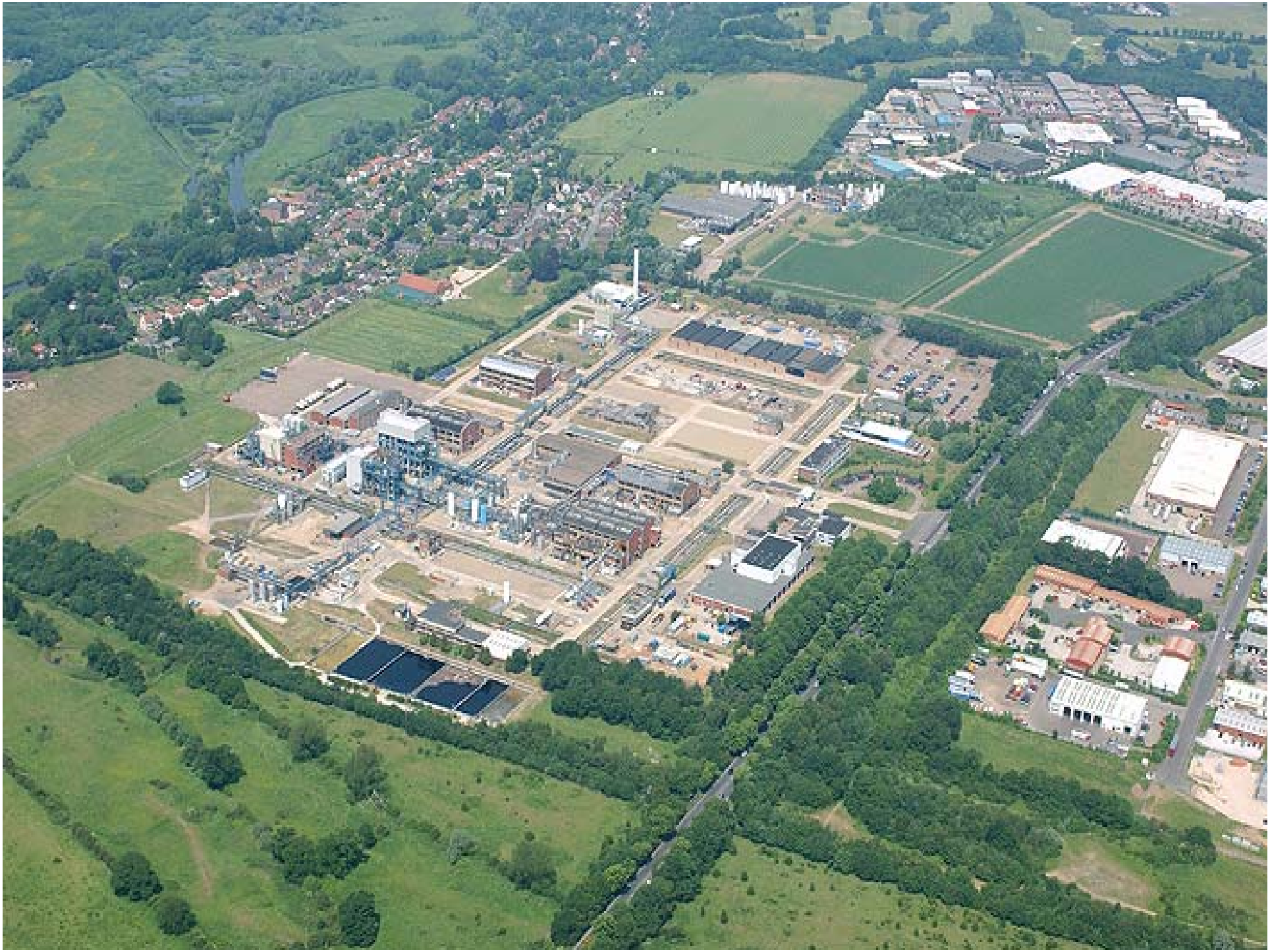
Bayer Cropscience Norwich

Content

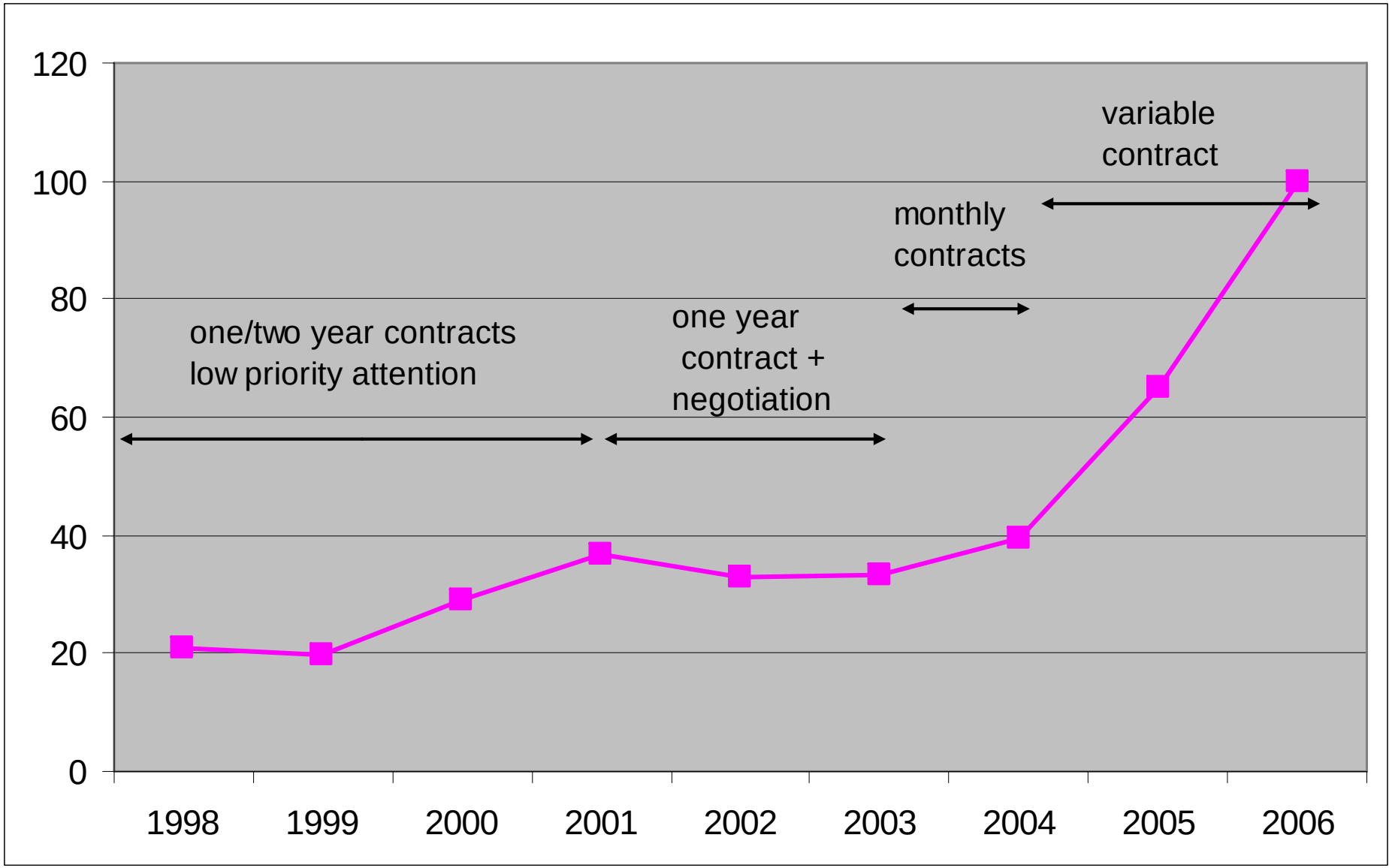
- Overview of Bayer Cropscience Norwich
- Gas purchasing history
- Gas purchasing strategy
- Gas supply information
- National Grid website now
- National Grid website in the future
- The first Gas Balancing Alert
- GBA action and cost comparison



Facts about site

- Covers ~115 acres
- 300 permanent employees
- 20 processes
- Mostly agrochemicals
- 4.4 MW CHP, 2.5 MW internal
- 17 tph steam – normal load about 10 t
- Prime energy source is gas
- Seasonal business - low summer demand
- Annual gas use about 130 to 140 GWhr

Gas Purchasing History as % of 2006



7.086 I&C

Energy Snapshot

THE HEREN REPORT

Published by Heren Energy | www.heren.com

Heren® Indices 5 May 2006

Gas (NBP)	p/th	£/MWh
Day-ahead	37.797	12.897
Month-ahead	41.485	14.155
Day-ahead Monthly Cumulative	36.571	12.479

Electricity	£/MWh
Day-ahead	30.848
Month-ahead	41.739

NBP price assessments 5 May 2006

Period (p/th)	NBP			% Change
	Bid	Offer	Diff	
Day-ahead	38.500	38.750	5.875	*17.94*
WDNW	37.950	38.050	0.325	*0.86*
BOM	38.200	38.300	0.250	*0.66*
June '06	38.100	38.200	0.300	*0.79*
July '06	41.700	41.800	0.300	*0.72*
August '06	44.250	44.350	0.675	*1.55*
Q3 '06	43.600	43.700	0.425	*0.98*
Q4 '06	75.800	75.950	-0.800	*-1.04*
Q1 '07	86.850	86.950	-0.800	*-0.91*
Q2 '07	50.450	50.550	-0.325	*-0.64*
Gas Year 06	64.725	64.825	-0.600	*-0.92*
Gas Year 07	60.450	60.610	-0.245	*-0.40*

UK OTC power price assessments 5 May 2006

Period (£/MWh)	Baseload			% Change
	Bid	Offer	Diff	
Day-ahead	29.90	31.10	*1.100*	3.74
Week 19 '06	31.20*	31.70*	*-0.050*	-0.16
June '06	33.20	33.40	*-0.600*	-1.77
July '06	35.25	35.75	*-0.700*	-1.93
August '06	37.00	37.50	*-0.500*	-1.33
Q3 '06	36.25	36.75	*-0.700*	-1.88
Winter 06	62.90	63.10	*-0.600*	-0.94
Summer 07	41.00	41.40	*-0.500*	-1.20
Winter 07	59.50	60.00	*-0.600*	-0.99
Summer 08	46.75	47.25	*0.000*	0.00
Winter 08	61.40	61.90	*0.000*	0.00

ICE Natural Gas Futures 5 May 2006

Period	Settle	Period	Settle	Period	Settle	Period	Settle	Period	Settle
06-May	34.00	11-May	37.88	Aug-06	44.32	Jan-07	92.63	Q1'07	86.99
07-May	34.00	12-May	37.88	Sep-06	45.00	Feb-07	89.38	Q2'07	50.47
08-May	37.65	BOM	38.08	Oct-06	58.23	Mar-07	78.97	Q3'07	45.90
09-May	37.88	Jun-06	38.01	Nov-06	81.88	Q3'06	43.69	Q4'07	67.77
10-May	37.88	Jul-06	41.75	Dec-06	88.13	Q4'06	76.08	Q1'08	79.67

A full methodology for ICES, including a glossary of the terms used in the report, can be obtained via our website: www.heren.com

Gas market comment

- Prices on the NBP prompt firmed on Friday as the UK's weather forecast looks set to see milder weather over the weekend and into next week. The far curve lost ground, but the near curve finished in bullish mood, propped up by a late rally on the prompt.
- Within-Day opened at 36.50 p/th, which proved to be an intra-day high. Day-ahead was assessed closing at 38.50-38.75 p/th. The contract traded in a reported range of 37.50-38.50 p/th.
- The most active contract on the curve was Winter '06, with the component quarters also reportedly trading. Winter '06 shed 0.80 p/th session-on-session, to close at 81.40 p/th. The contract was reported trading in a 81.20-81.50 p/th range. Q4 '06 was reported trading at 75.90 p/th, while Q1 '07 went through at 86.70 p/th.

Electricity market comment

- The curve Baseload contracts fell between £0.50/MWh and £0.70/MWh as CO_2 and the NBP curve softened. June '06 Baseload fell from £34.00/MWh to rebound from £32.70/MWh, although most dealing occurred between £33.00/MWh and £33.40/MWh.
- Low liquidity further along the curve was normal for a Friday, with 190 MW changing hands in 16 trades. Winter '06 Baseload recovered from its intra-day low of £62.50/MWh to close at £63.00/MWh, while Winter '07 traded once at £59.50/MWh.
- The prompt was supported by a rise in the NBP prompt as temperatures were predicted to fall over the weekend and into next week. Day-ahead Baseload reached £32.50/MWh before falling back to close at £31.00/MWh.

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Gas Purchasing Strategy

- If we were given a school report it would say

Gas Purchasing Strategy

- Could do better
- BUT company policy is not to speculate
- IF we were better informed we might have pushed for contracts for 2004/5/6
- Seemed to us that day ahead was always cheaper than month ahead
- We did not understand the market drivers
- Underlying supply fundamentals did not seem readily available.
- The last two points are the most important

Gas Supply Knowledge

- First real eye opener for me was a seminar run by CIA
- Outlined source of gas & capability
  - beach supply – north sea
  - pipelines – Scandinavian, European
  - storage - long, medium, short
  - LNG
- Indicated cost premium of each cf. beach
- Possible to see how errors in predictions could cause large cost hikes

Conclusion - the game has changed

- Supply predictions were too optimistic
- Whenever supplies become critical they do seem more prone to problems – maybe because of the “spotlight effect”.
- Very rapidly moved from an over supply to a marginal supply situation.
- Purchasing becomes more sensitive
- Need access to better market information

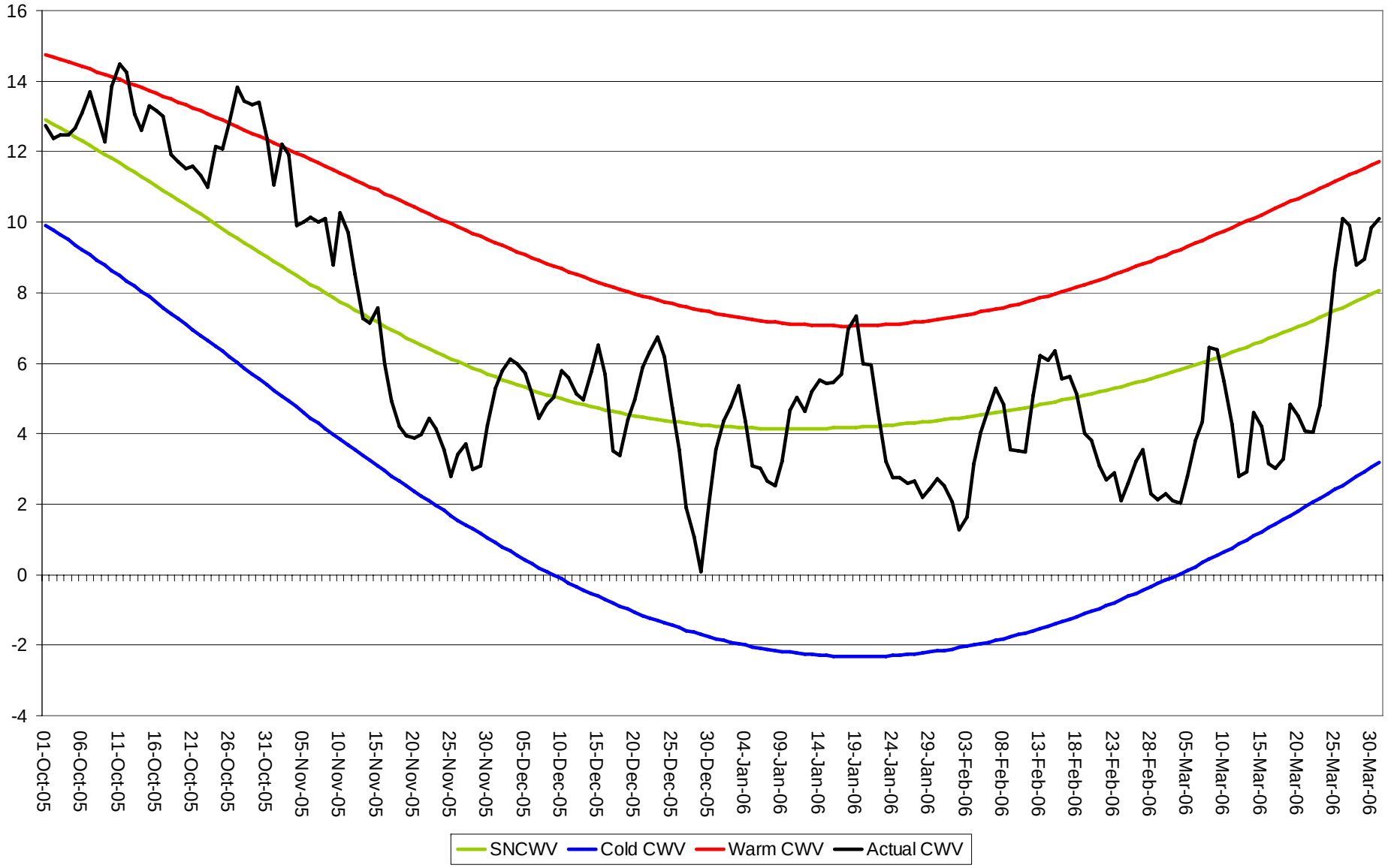
The Information Gap

- One sided – traders have up to date detailed information – purchasers often have to rely on suppliers
- In this volatile situation purchasers need more up to date data.
- The Interim NG Gas Website has partly filled the gap
- Enables better understanding of supply profile and price

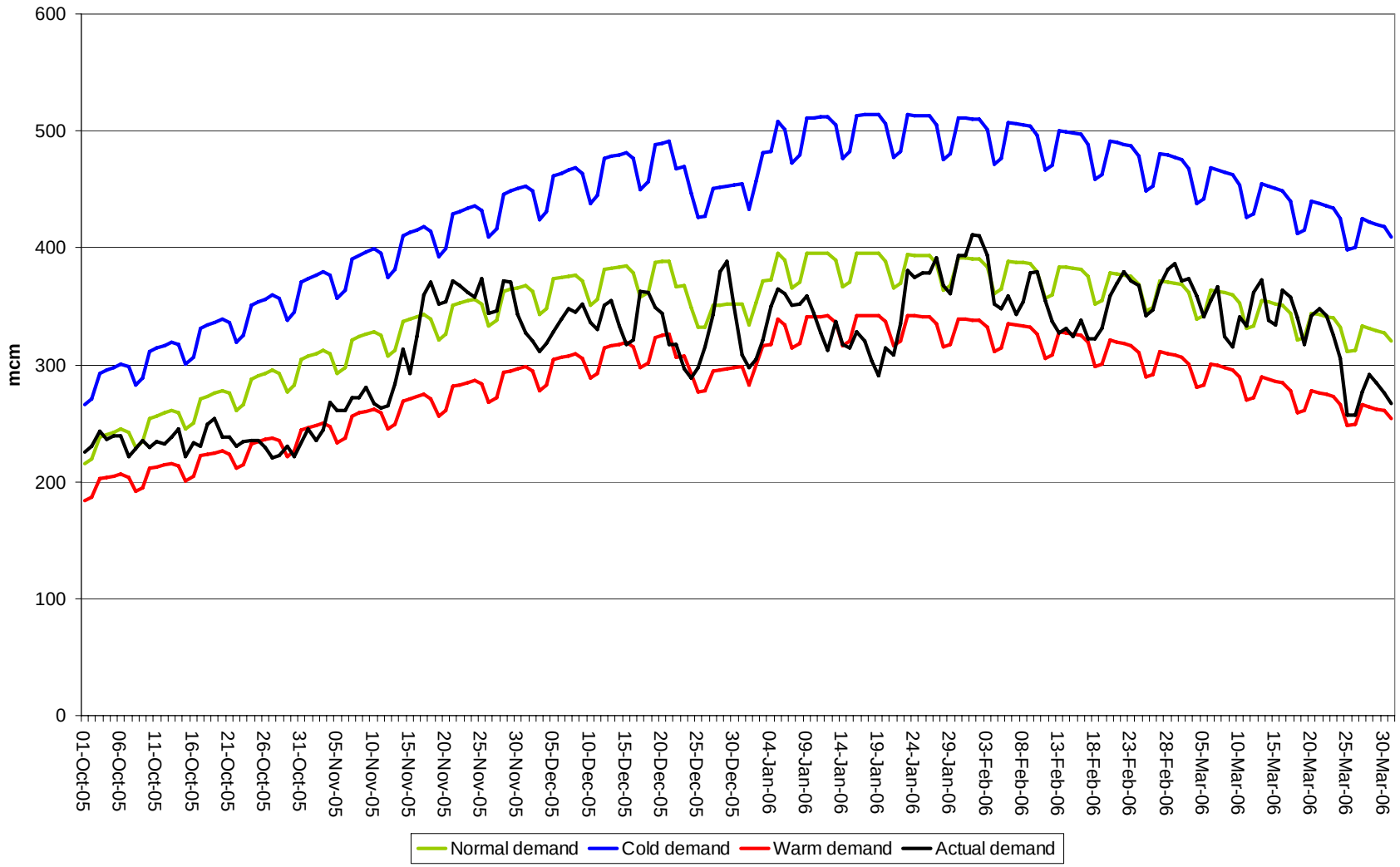
NG Gas Website

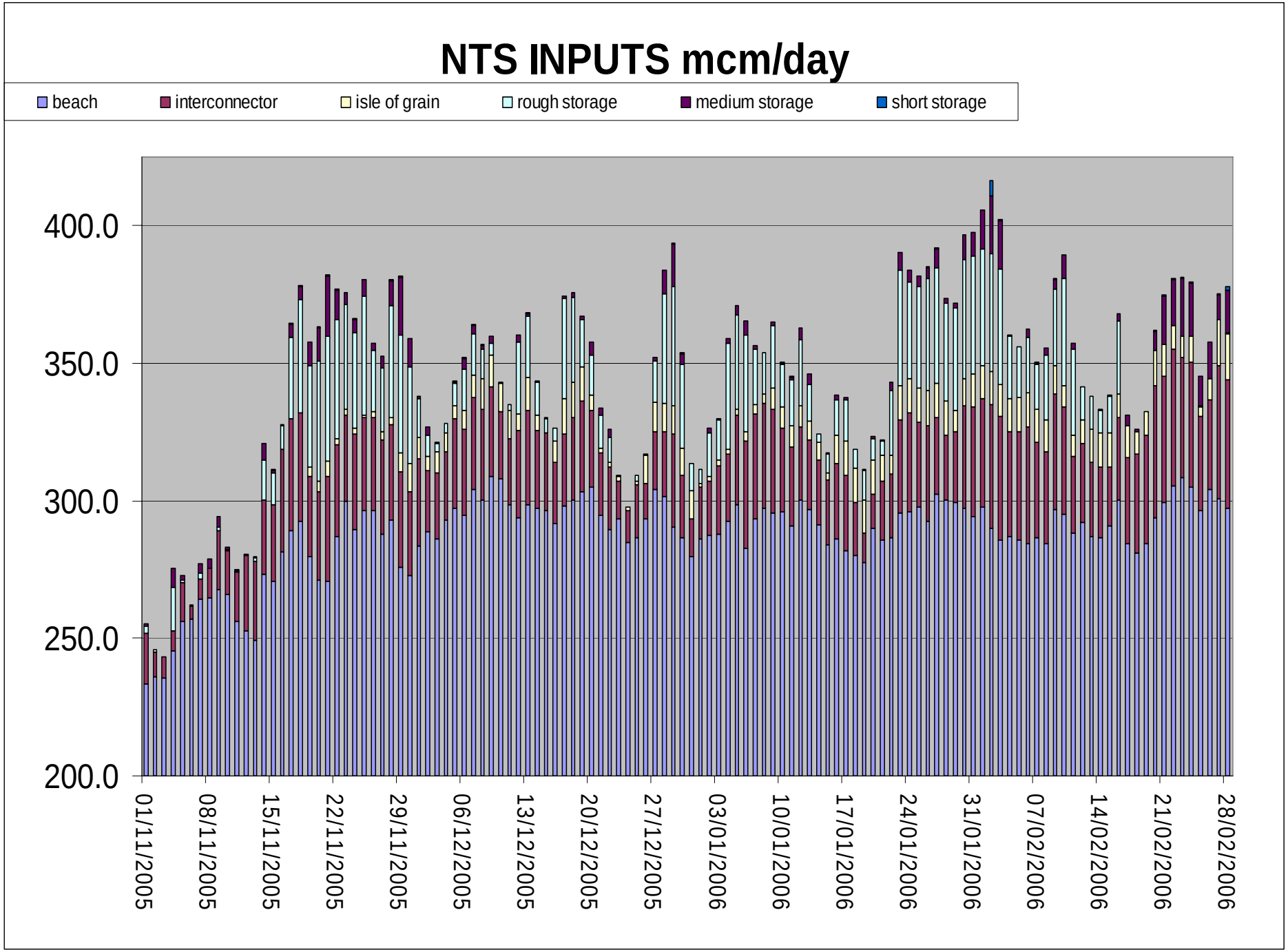
- Supply information (comparable)
  - Beach
  - Interconnector
  - LNG
  - Storage
- ALL WITH HEALTH WARNING
- Temperature / demand profiles
- Storage information
- Cost information at NBP

Composite weather variable winter period



Actual demand profile winter period




NTS INPUTS mcm/day
beach
interconnector
isle of grain
rough storage
medium storage
short storage
400.0
350.0
300.0
250.0
200.0
01/11/2005
08/11/2005
15/11/2005
22/11/2005
29/11/2005
06/12/2005
13/12/2005
20/12/2005
27/12/2005
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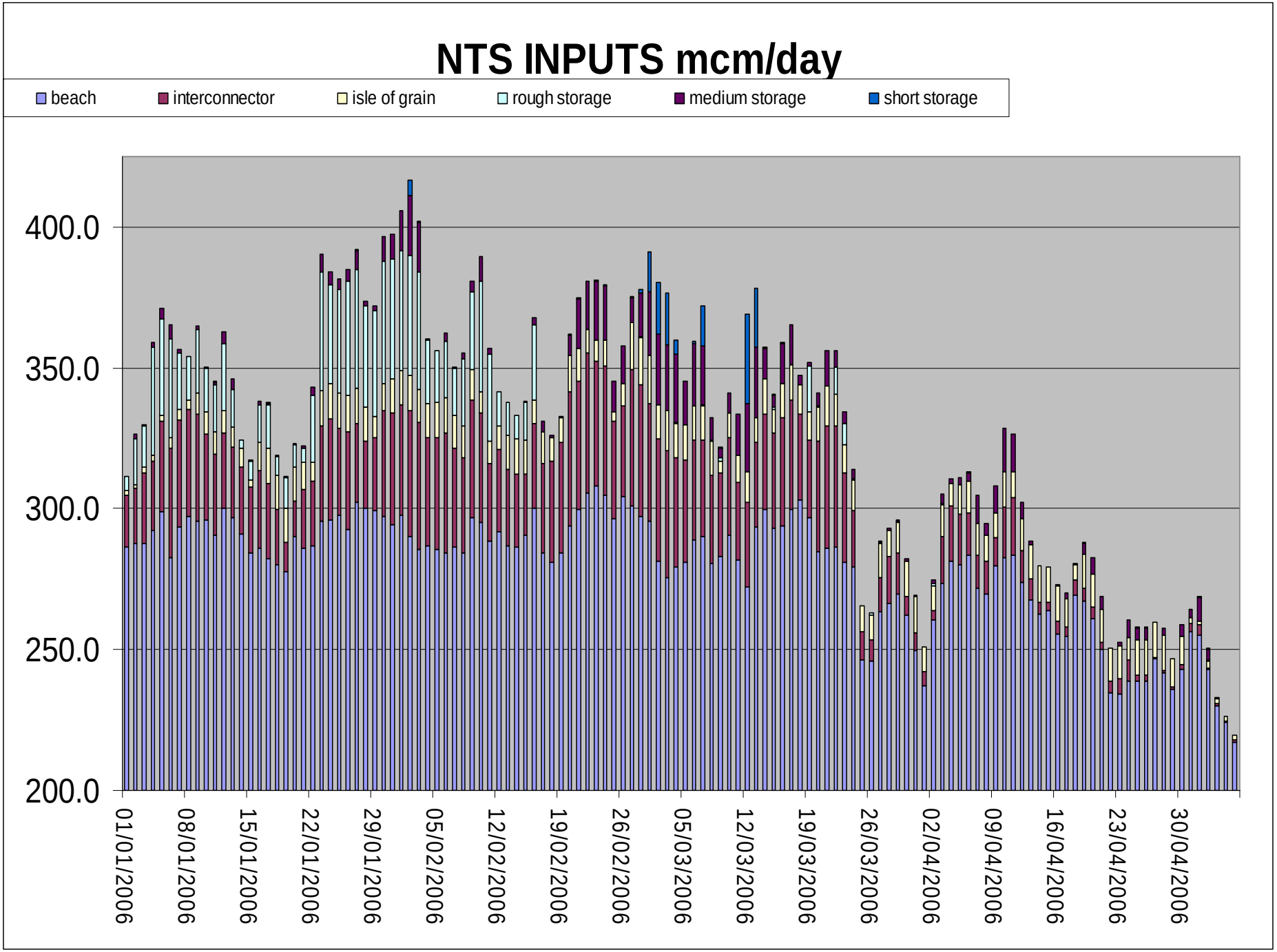
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22/01/2006
29/01/2006
05/02/2006
12/02/2006
19/02/2006
26/02/2006
05/03/2006
12/03/2006
19/03/2006
26/03/2006
02/04/2006
09/04/2006
16/04/2006
23/04/2006
30/04/2006

Time line of data

- The website is currently 2 days behind
- Although this data helps to build a picture of happenings and consequences
- To be fair in a trading situation we all need the same information on the same timescale
- NG Gas are being asked to make it within the hour???
- A notice board of events would also level the playing field

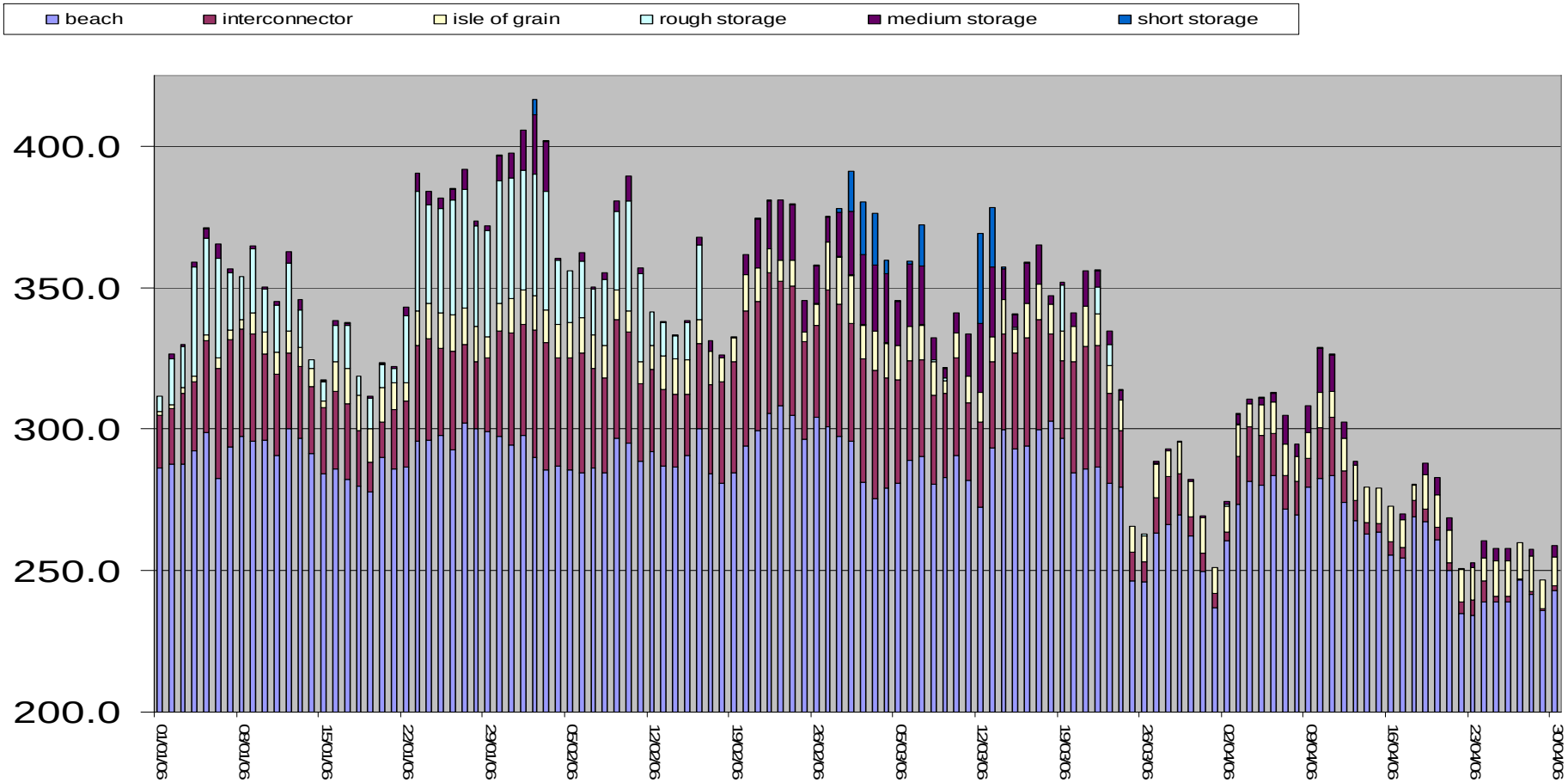
The first GBA

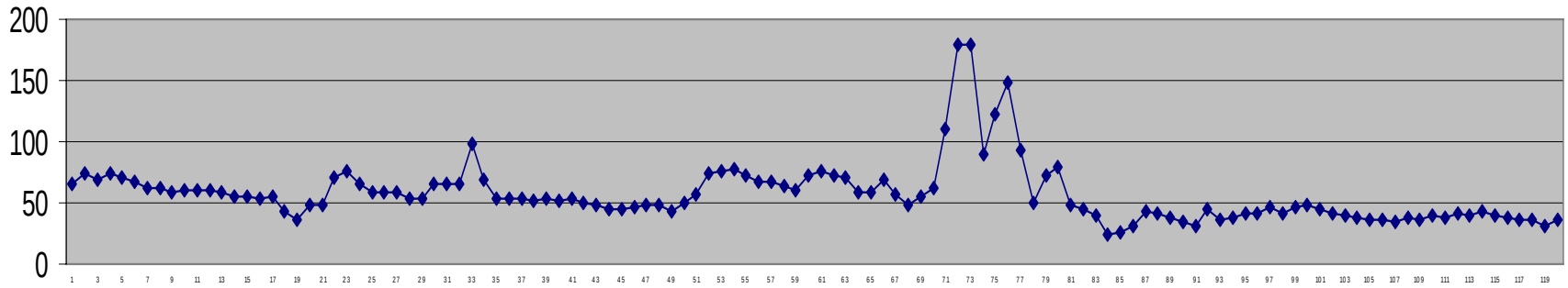
- Dateline 13/3/06 GBA issued 00:08 hrs
- Voluntarily reduced our load
- Prices escalating
  - 10/3/06 Friday Heron day ahead 56.2
  - 13/3/06 Monday Heron day ahead 183.3
- Way in excess of oil equivalent
- Changed to oil
- Shut down CHP, import power, use SBB
- Resume normal working 21/3/06
  - 20/3/06 Heron day ahead 83.6

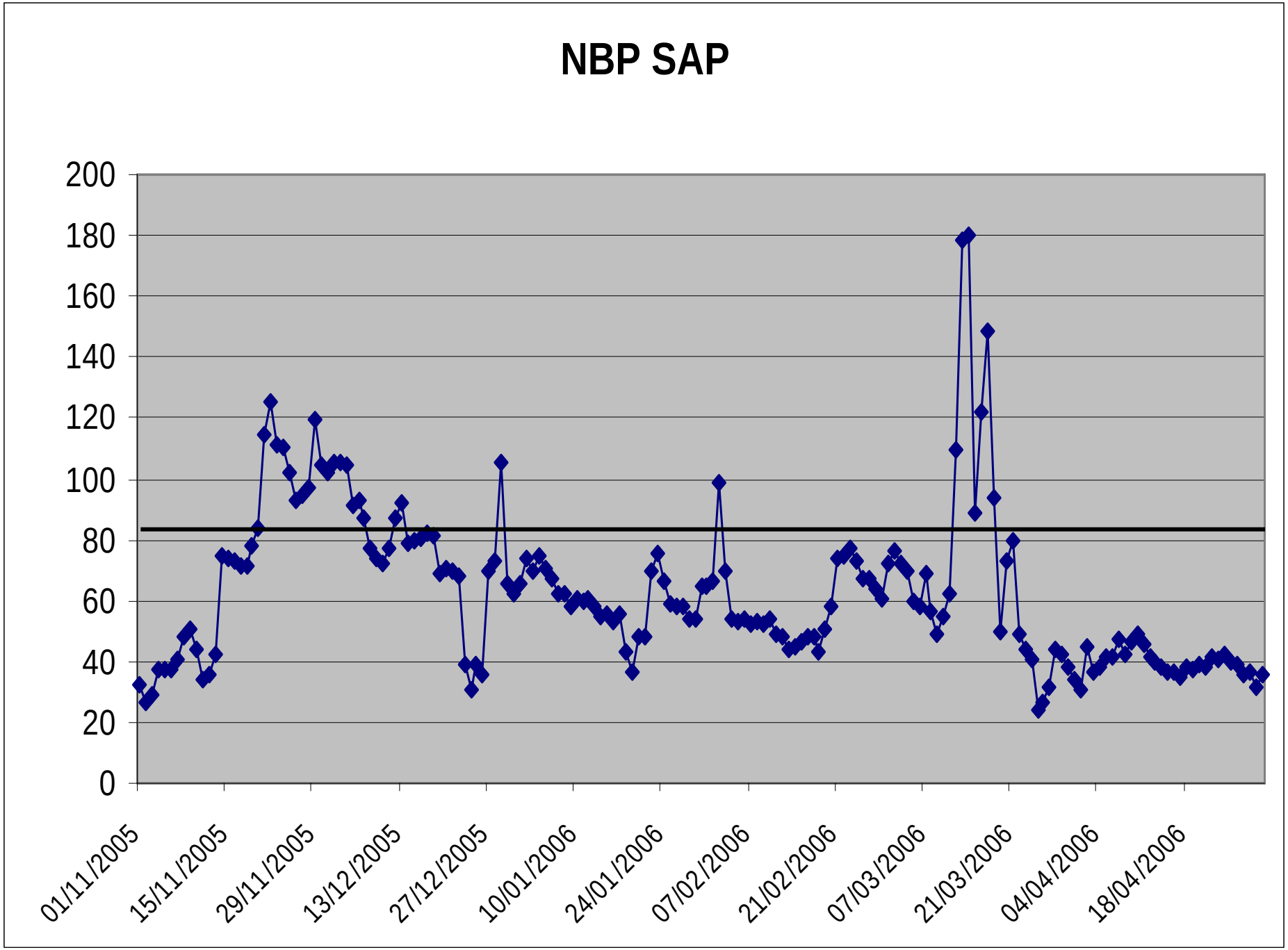
Comparative cost during GBA 14th to 21rd March inc.

	on gas	on oil
gas	158,568	27,551
oil	0	27,881
import	0	29,577
export	-14,335	0
	144,233	85,009

NTS INPUTS mcm/day






NBP SAP
200
180
160
140
120
100
80
60
40
20
0
01/11/2005
15/11/2005
29/11/2005
13/12/2005
27/12/2005
10/01/2006
24/01/2006
07/02/2006
21/02/2006
07/03/2006
21/03/2006
04/04/2006
18/04/2006

Intended action 2006/7 winter

- CHPQA >>>oil tax rebate
- Decide on threshold for fuel switch
- During periods of “stress” monitor web site carefully.
  - Forecast demand
  - NBP price
  - Contact with supplier
- Notify supplier and switch fuels
- Currently January is above threshold
- Adequate CO2 in hand, revised PPC submission

Supplier flexibility

- Supplier is flexible
  - Year, month, week, BOM
  - Day head index - cumulative average
- During GBA month offered daily weighted, instead of cumulative (extended)
- Interesting question about ownership
  - Contract to supply in terms of volume
  - Agreement on price
- In a GBA could we sell our capacity to NG

My Question

- I assume that much of the supply is on very long term contract
  - Domestic suppliers
  - Power stations
- Consequently customers such as ourselves buy a relatively small amount but at a marginal price.
- Who actually sets the NBP price
- On what is this price based

THE END

How to use information

- No substitute for experience
- Buying decisions mostly winter periods
- Weather trends – see internet
- Balance between supply hierarchy and demand
- Day ahead to BOM
- Switch to Oil
- No magic wand
- True professionals will get to deals quicker
- But you pay for the service