

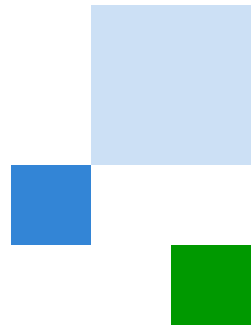
Power Markets

**Ofgem Winter Outlook Consultation
Seminar, London**

10 September 2008

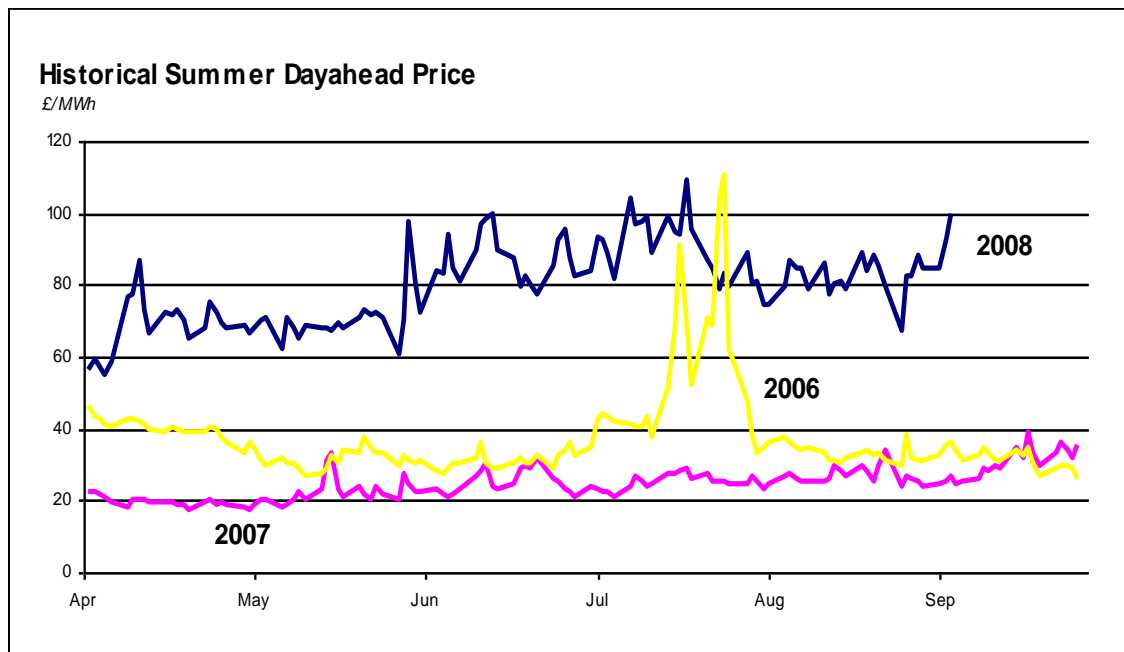
Jon Page

Head of Energy Marketing, npower



- **Summer 2008 looking back**
 - Price volatility and Level
 - Fundamentals of summer price
- **Forward Curve Price Development in LCPD**
- **Looking forward to Winter 08/09**
 - Forward curve price development
 - Fundamentals
- **Retail Customers - managing positions for the winter and beyond.**

Summer 2008 looking back (1)

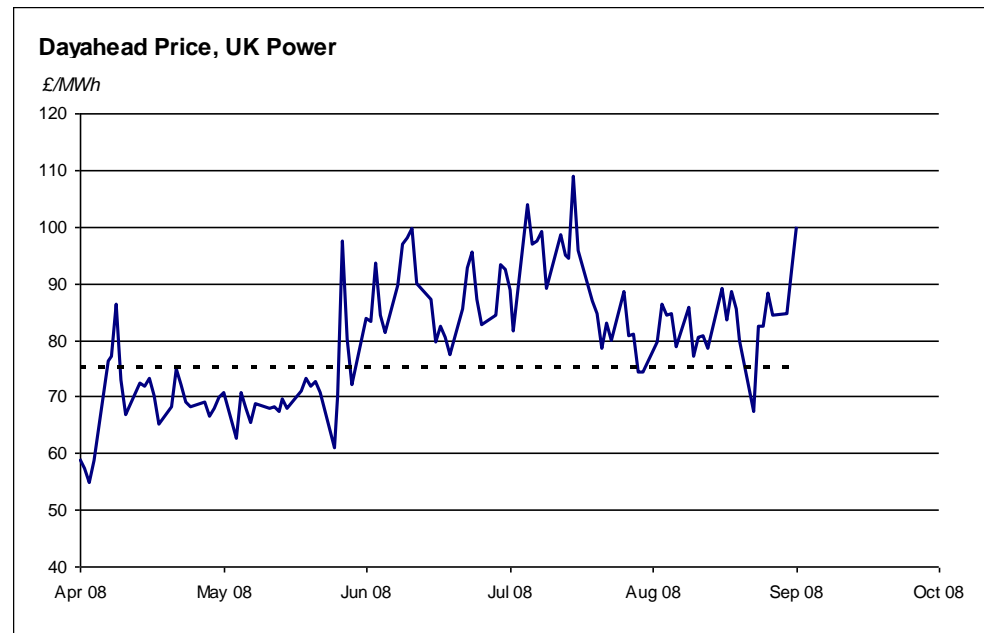


- **Volatility not significantly different to that in previous summers, but working off a much higher level of absolute price**

	Sum-08	Sum-07	Sum-06	Sum-05
Average Dayahead Price, £/MWh	79.96	24.85	37.44	33.35
Dayahead Price Volatility ¹ , %	9.2	10.0	11.7	7.1

Summer 2008 looking back (2)

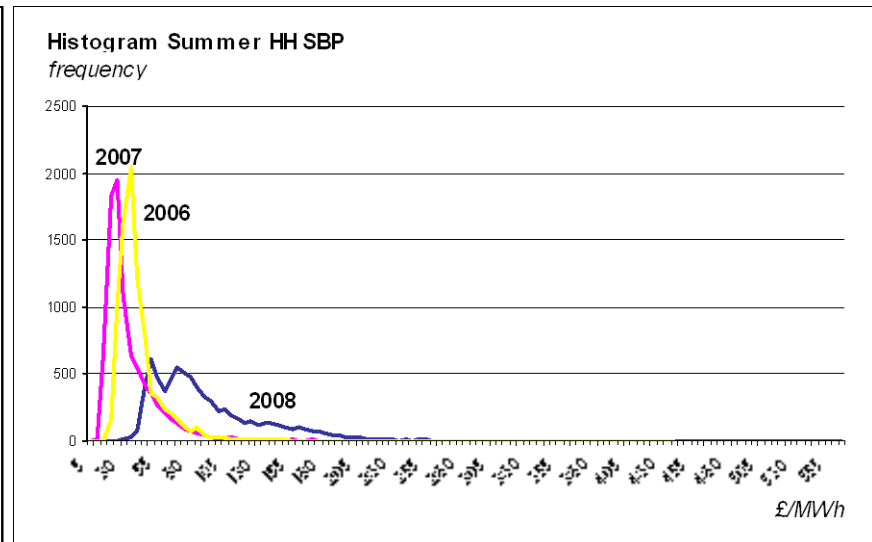
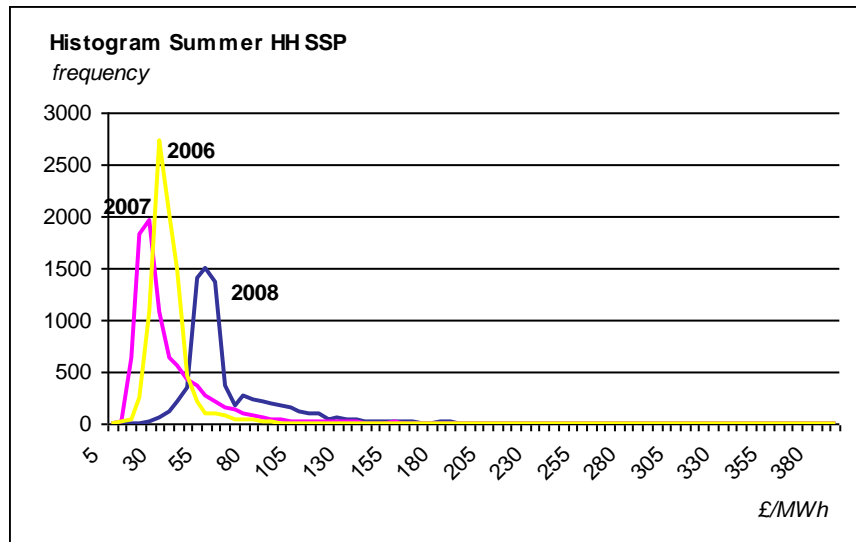
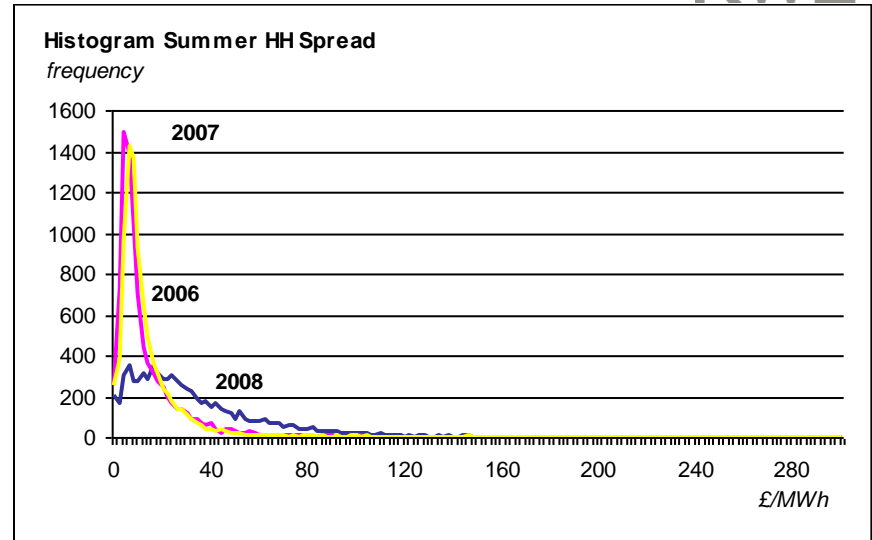
- In the first 2 months of summer witnessed 4 closing baseload dayahead prices > £75/MWh
 - For the subsequent period we have seen only 2 closes below £75/MWh
- Late May combination of loss of coal unit in Scotland and nuclear tripping in late morning resulted in a total loss of 1582MW within 2 minutes.
- Loss of demand-side response and cable in North Wales further exacerbated tightness on system and requirement for more spinning reserve.
- Derogated plant hours biting after running early summer (see later slide)





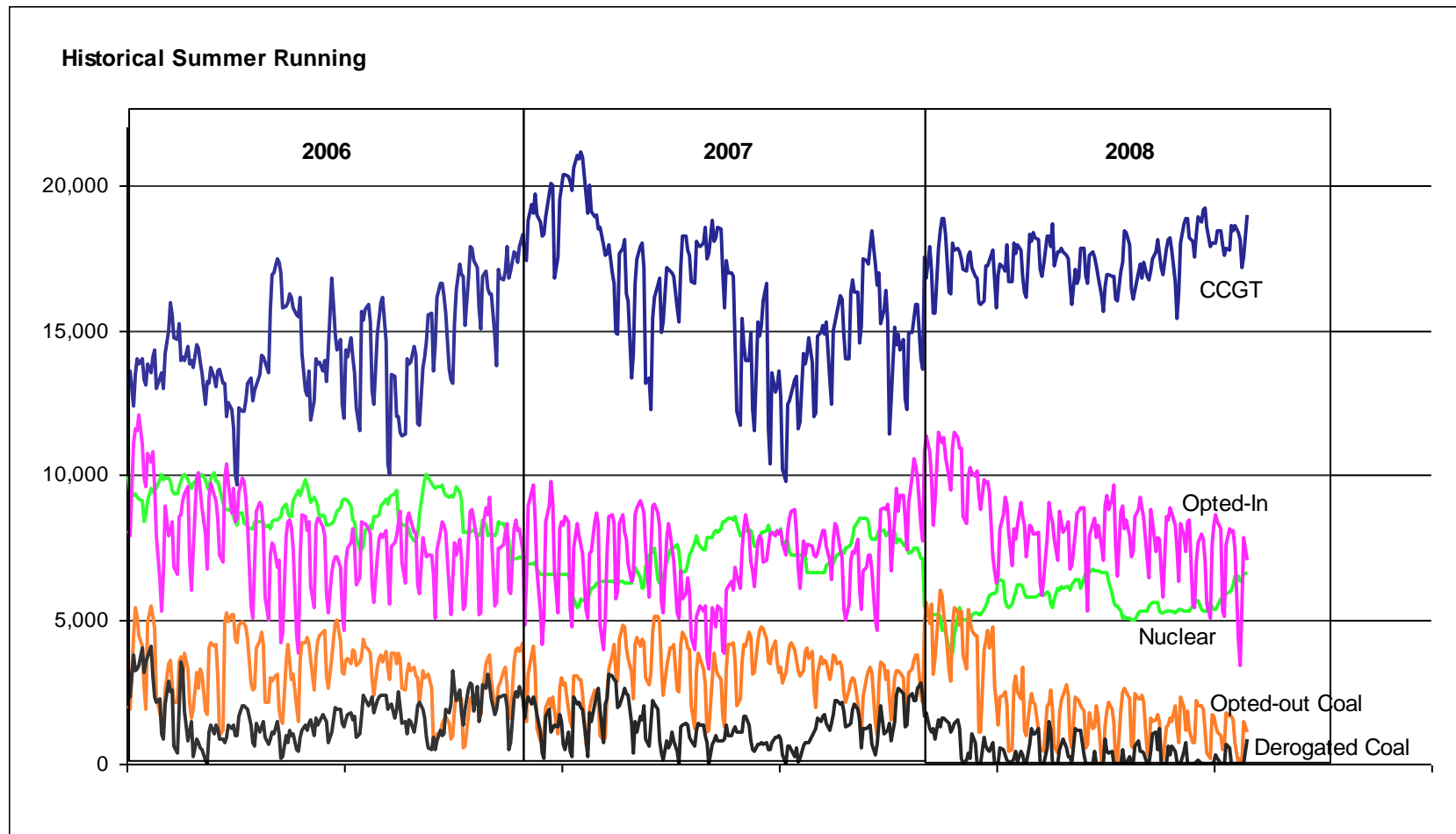
Summer 2008 looking back (3)

- System Buy Prices evidenced this summer are of a higher order and wider distribution than those seen in previous summers.
- System spreads tell the same story, with the shortage in plant articulated in larger spreads.



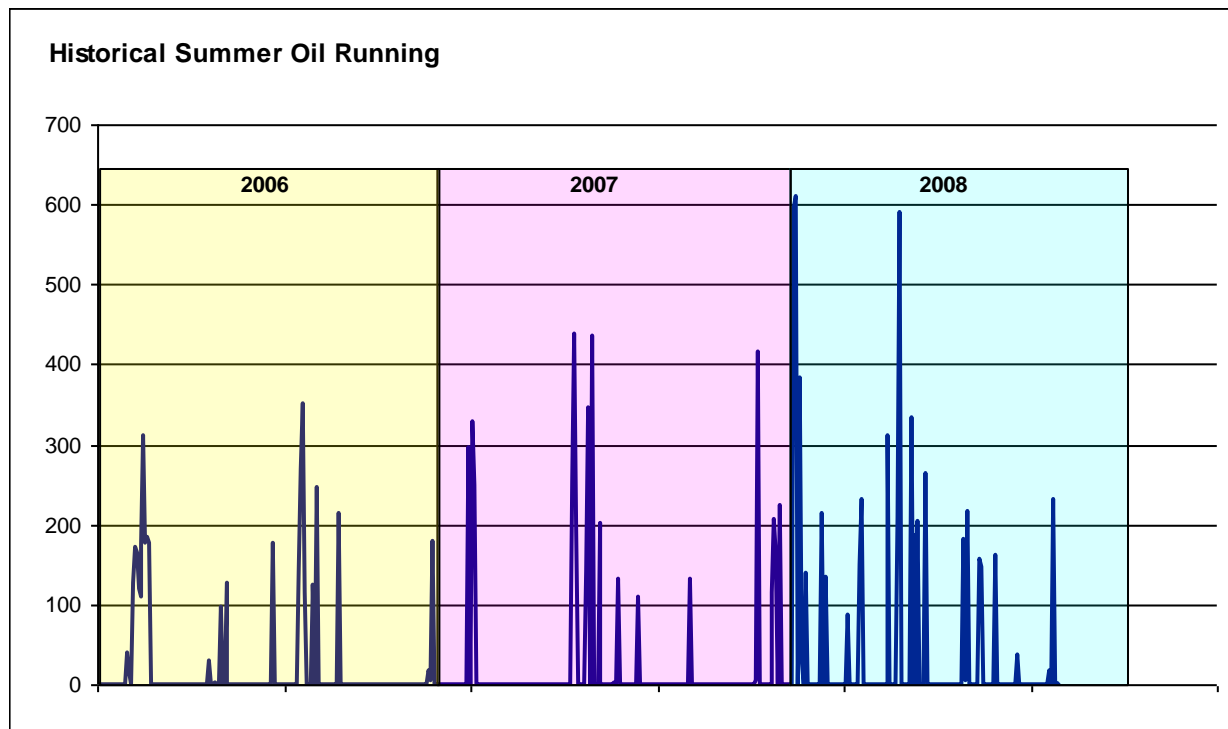
Summer 2008 looking back (4)

- Nuclear running has been low relative to previous years, with Heysham and Hartlepool out
- CCGT running much more consistently
- Opted-in plant saw strong running at beginning of summer
- Derogated and opted-out plant output low relative to previous years



Summer 2008 looking back (5)

- Frequency of oil running increased in summer 08, despite the fuel price.
- Oil filling in and providing short notice response – higher output stimulated by reduction in demand side response and North Wales cable



Forward Curve Price Development in LCPD

- Concept of opted out and derogated plant scheduled and traded analogous to gas storage
- Gas storage optimisation – buy low price and inject, sell high price satisfied by withdrawal
 - Hedge facility along the duration of the curve, s.t liquidity constraints
 - Different operators may operate different hedging strategies – intrinsic / extrinsic hedging

Gas Storage Optimisation = f(inject/withdrawal cost & rate, capacity inc. buffer gas, maintenance, forward price level, volatility, time)

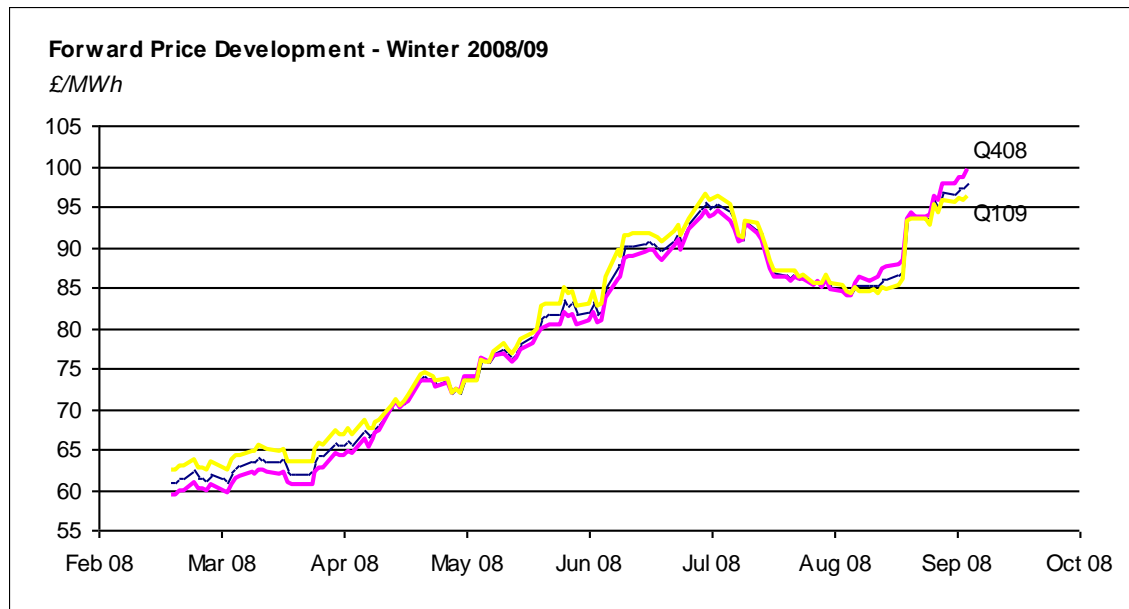
- Opted-out and Derogated plant now not simply running when positive margin,

Constrained hours Optimisation = f (fuel cost inc. carbon, capacity inc MSG level, maintenance, genset/stack relationship, hours limit, ramp up/ramp down cost & rate, forward price level, volatility, time)

- Environmental constraints / regulation have impact on price (rationing of hours)

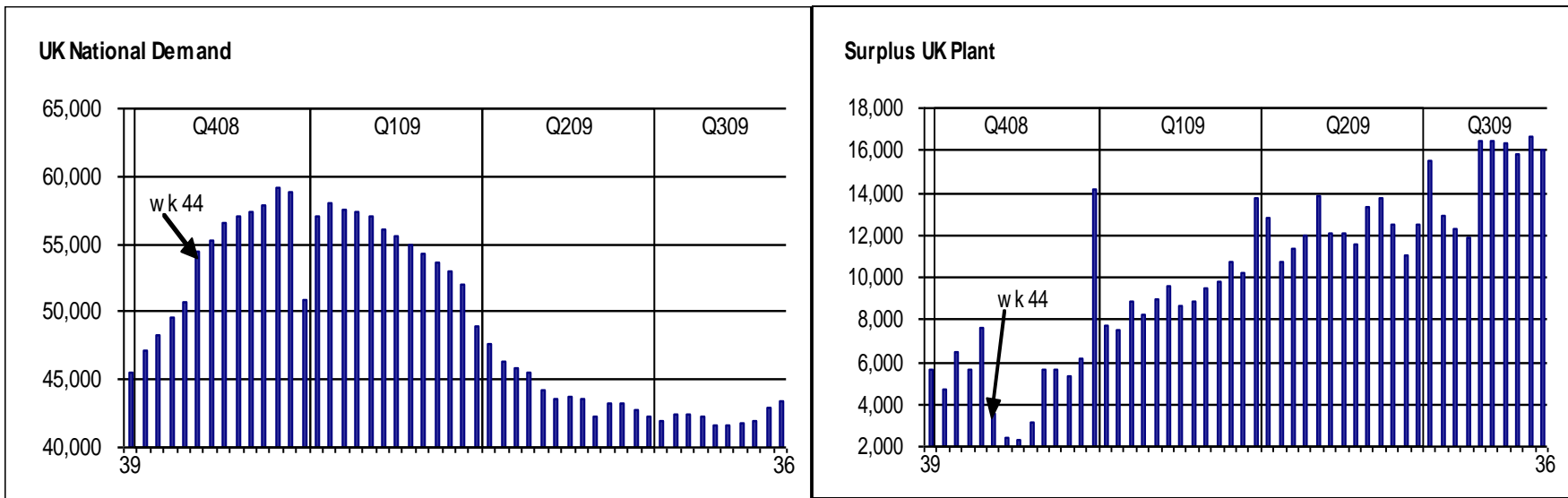
Winter 2008/09 looking forward

- Q408 now trading at a premium to Q109 as concerns around available margin in Q4 bites.
- Mid-July start of downward trend in oil from highs translated to fall in prices across whole energy complex
 - Strengthening of US dollar combined with more pessimistic global economic climate (credit crunch & inflationary pressures)
 - Coal prices have seen support relative to oil (API2 down 18.7% from highs whereas Brent off 27.4%)
- 20 August leak discovered on pipeline carrying gas from Kvitebjorn and Visund fields.
 - Gas flows to UK via Langeled or Europe via Zeepipe may be impacted.



Winter 2008/09 looking forward

- Week 44 sees step-up in demand as a result of seasonal demand profile
- Currently UK at a premium to French power so anticipating imports through the IFA, but the arbitrage is getting tighter (suggestion that could see exports to France in blocks 3 & 4)
 - IFA import/export not included in the 2-52 week forecast, so could see +/- 2GW on this surplus.
- Weather in early part of Winter always important as early storage withdrawals result in reduced flexibility for balance of winter



- Npower Corporate Markets active in the >30GWh end of retail market

G-30 Recommendation No.9: “As appropriate to the nature, size and complexity of their activities, end-users [= industrial companies] should adopt the same market risk management practices that are recommended for dealers [= banks etc]”

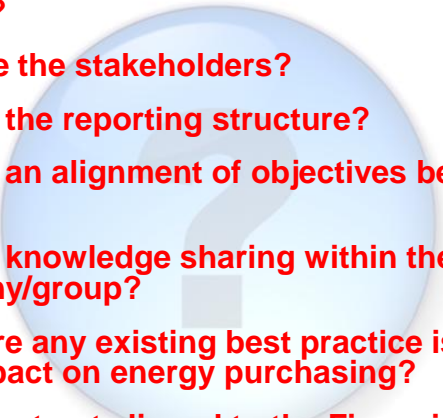
G-30 Recommendation no.5: “Risk limits (for both market and credit) should be established, approved and monitored within a framework and overall risk appetite approved by the board of directors or the audit committee.”

- Customers therefore should not only have access to the right tools, mostly widely used being Flexible Purchasing Product, but also help with establishing a Risk Management framework in which to operate these tools.
 - Asking the right questions: the first steps of Policy Shaper service...

npower 'Policy Shaper'

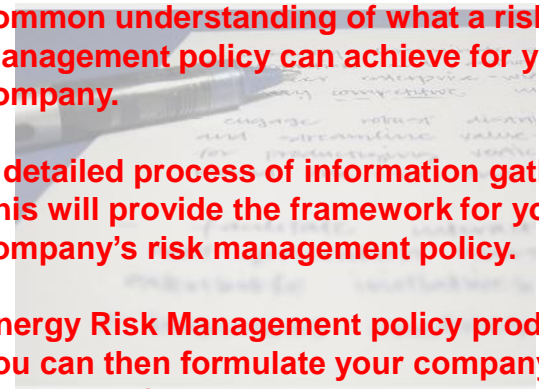
■ Asking the right questions:

- Are there any corporate objectives relating to energy?
- Who are the stakeholders?
- What is the reporting structure?
- Is there an alignment of objectives between sites?
- Is there knowledge sharing within the company/group?
- Are there any existing best practice issues that impact on energy purchasing?
- Is the contract aligned to the Financial Year?
- Who owns the budget and who allocates Risk Capital?



■ Four step process:

1. Introductory consultation to establish a common understanding of what a risk management policy can achieve for your company.
2. A detailed process of information gathering. This will provide the framework for your company's risk management policy.
3. Energy Risk Management policy produced. You can then formulate your company's own energy-buying strategy.
4. An additional option is to receive a daily Value at Risk (VaR) report.



■ npower contacts:
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Npower Flexible Purchase Services



Each company is provided with an experienced and dedicated Client Portfolio Manager.

Market information access

- npower's Optimisation Desk monitors the wholesale energy markets from the RWE Supply & Trading floor and provides information on market prices, bid-offer spreads, market depth and liquidity.

Daily Analysis

- Price Setting Report:
- Daily Energy Market Brief
- Live Energy Market Snapshot
- Daily Value at Risk Reporting (VaR)
 - Daily Value at Risk Reporting (VaR) from npower business is a unique risk management reporting tool that helps customers to manage their exposure to energy price risk.

Deal execution services

- The Optimisation Desk can transact power, gas and carbon in the forward and prompt markets
- The Optimisation Desk will proactively look across the whole market and within npower's own portfolio for the best price available

Flexible Purchase

- The Full Flexible product allows customers to spread their purchasing decisions across a contract duration.
- Customers shape into three main components: Baseload, Peakload, Residual and their residual is traded up front.
- Customers clips are split between baseload and peakload. Customer may trade baseload and peak clips in months, quarters, seasons or annually.

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