

# Cash Out Price Review 30 Mar 2007

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**What is the Impact of Non Exclusive Energy Actions on Imbalance Pricing ?**

# Impact of SO activity on Pricing

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- ◆ The SO undertakes a variety of activity to manage the System
  - ◆ This includes
    - ◆ Activity to manage market energy imbalance
    - ◆ Activity to manage system resilience and security so the market can provide energy to its customers.
  - ◆ Traditionally been described as the system/energy split
    - ◆ However this a simplification of a much more varied set of activity

# SO Activity

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- ◆ What are the issues that the SO looks to resolve?
- ◆ Market Energy Imbalance
  - ◆ Buy/Sell energy volume
- ◆ Market Energy Imbalance Uncertainty
  - ◆ Need to create Footroom/Headroom (Reserve)
- ◆ Intra Half Hour Demand volatility (eg TV pick ups)
  - ◆ Requires Response/Fast Reserve
- ◆ System Issues (Thermal/Voltage)
  - ◆ Requires Zonal/Locational procurement

# SO Cost Efficiency

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- ◆ The SO does not look at each issue in Isolation
- ◆ Each SO action may resolve a number of issues as well as energy imbalance
- ◆ This is the most economically efficient manner to minimise total SO costs

# Prevalence Within NIV

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- ◆ The Split of volume of actions in NIV taken
  - ◆ Exclusively for Energy Balancing and...
  - ◆ Also for other reasons “Energy Balancing Plus”

Volume Percentage of Bids and Offers in NIV Stack (Apr 06 to Feb 07)		
	Energy Balancing Only	Energy Balancing Plus
Offers	25%	75%
Bids	41%	59%

- ◆ What are the implications in relation to the acceptance of Bids and Offers in price order?

# Energy Balancing Plus- Materiality

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- ◆ What is the materiality of the “Energy Balancing Plus” activity on Imbalance Pricing ?
- ◆ One measure would be to assess in comparison to an idealised Energy Stack
- ◆ Idealised Energy Stack – Theoretical Best solution to resolve NIV given
  - ◆ Perfect foresight of market characteristics
  - ◆ No Reserve, Intra half hour, or Constraint Issues

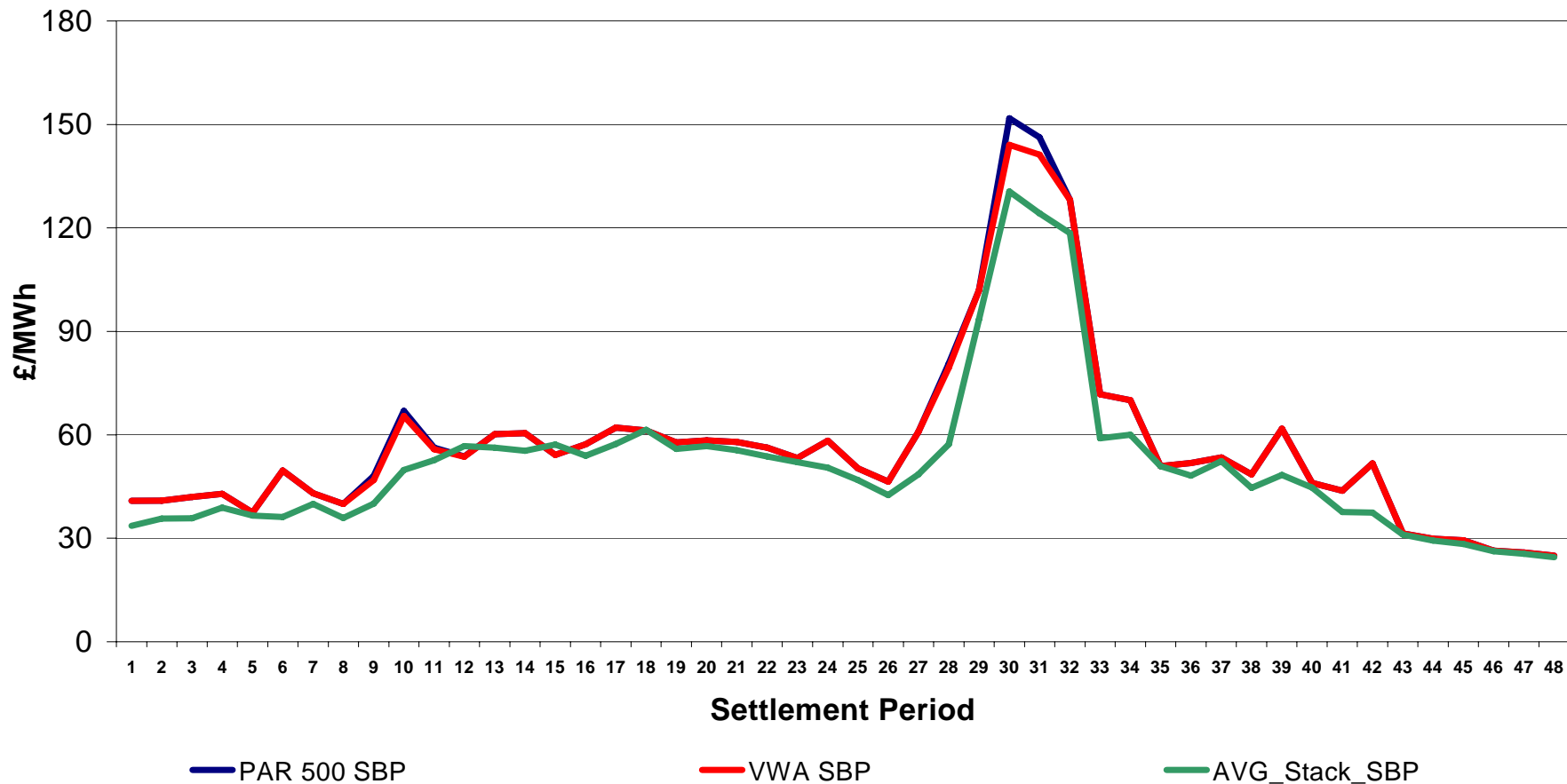
# Idealised Price Stack Comparison

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- ◆ There is no fixed methodology under which an idealised price stack is constructed
- ◆ For analysis purposes the following assumptions have been made
  - ◆ Services procured through forward options included in stack
  - ◆ Snap Shot – Is at 89 minutes ahead (Gate Closure) –
    - ◆ BMU with NDZ greater 89 minutes are excluded
  - ◆ Accessible Bids and Offers based on MEL at Real Time
  - ◆ All the prices are net of BPA component

# SBP : Approximate Calculation of Stack Prices

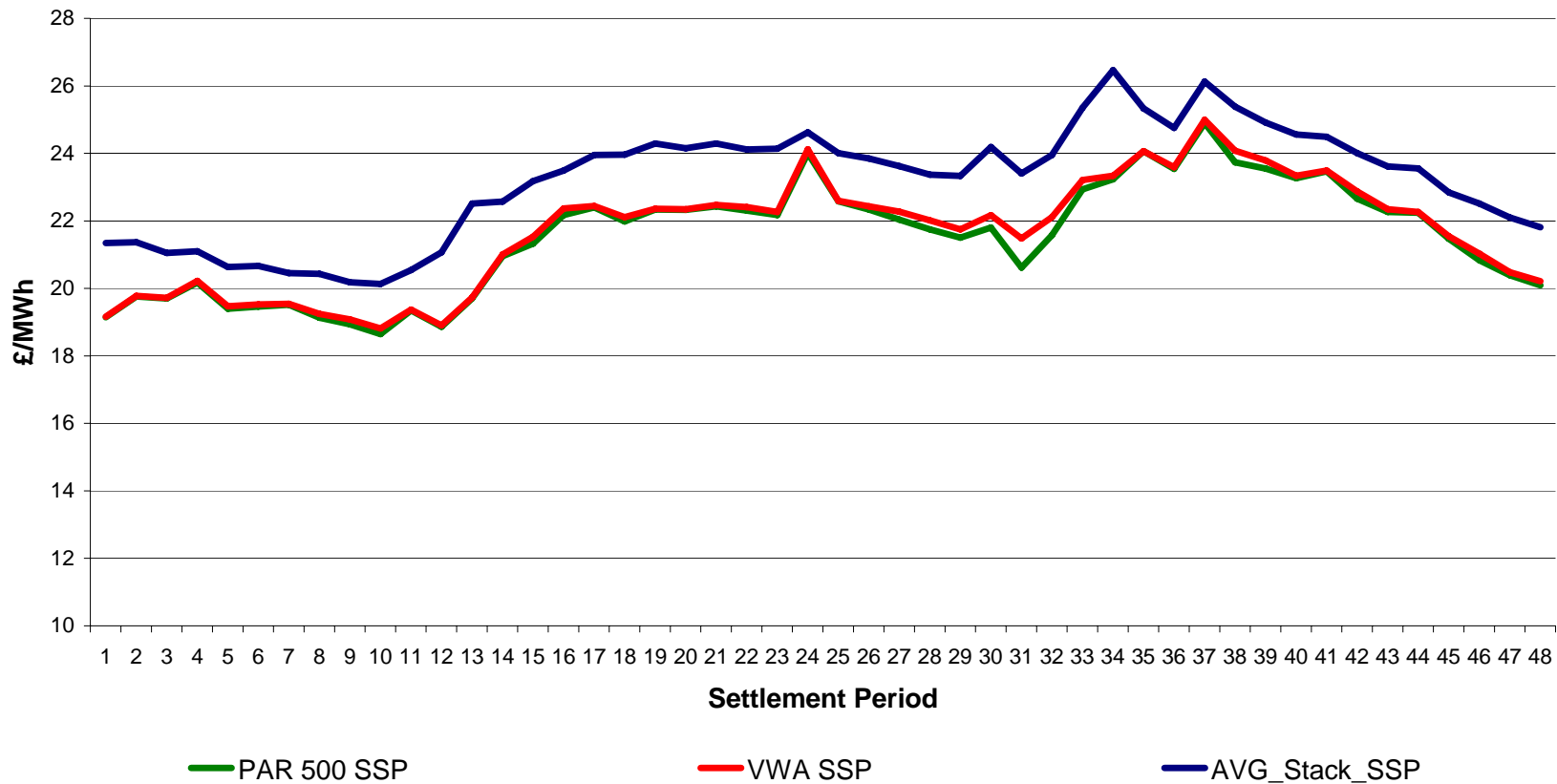
Idealised Stack Buy Price November 2006  
Average By Period (NIV Is Short)





# SSP Approximate Calculation of Stack Prices

Idealised Stack Sell Price November 2006  
Average By Period (NIV is Long)



# Average Prices for November 2006

<b>All Prices in Table are Net of BPA</b>	
<b>Buy Price</b>	<b>Average Price £/MWh (in a short market)</b>
<b>PAR 500</b>	<b>£57.15</b>
<b>VWA</b>	<b>£56.80</b>
<b>Avg Idealised Stack</b>	<b>£51.43</b>

<b>Sell Price</b>	<b>Average Price £/MWh (in a long market)</b>
<b>PAR 500</b>	<b>£21.52</b>
<b>VWA</b>	<b>£21.66</b>
<b>Avg Idealised Stack</b>	<b>£23.16</b>

# Initial Observations

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- ◆ On average the idealised price appears to be 9% lower and 7% higher than the comparable SBP and SSP respectively
- ◆ Relatively low material impact given the prevalence of Energy Balancing Plus activity in the NIV stacks
- ◆ Given the ration of periods when the market is short and long (1:4) the idealised stack leads to an approximate reduction of spread of 7.5-8%

# Idealised Price Stack

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- ◆ Can the concept of an Idealise Stack be considered as a possible Cash Out methodology?
- ◆ Useful to assess under two categories
  - ◆ Practicality of defining a methodology
  - ◆ Benefits of cost reflectivity

# Idealised Stack – Practicalities of defining Methodology

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- ◆ What gets included?
  - ◆ Unconstrained Stack must be based on feasible Bids/Offers.
    - ◆ The feasibility of an offer is based on the lead time at which the decision to activate it is taken
    - ◆ How do we determine the lead time of the feasibility snapshot?
  - ◆ Optioned Services : STOR/BM Start Up
    - ◆ The SO (rather than the market) brings these services to the market
    - ◆ Should they be included?
- ◆ The detail of the methodology could potentially have a large impact on the Imbalance Price

# Idealised Stack – Does it Achieve Cost Reflectivity

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- ◆ **Removes uncertainty surrounding price order impact of “Energy Balancing Plus” activity.**
- ◆ **It reflects the cost of energy**
  - ◆ **But does it reflect the cost to the SO of balancing ?**
    - ◆ Dependent on belief of what should be included in the price stack
- ◆ **Does not resolve the issue of the SO obligation to honour the minimum dynamics of generation.**
  - ◆ Idealised stack still underestimates costs in a particular settlement period when SO procures the marginal BMU
- ◆ **Does not solve the question of how to allocate option costs**
  - ◆ BPA – Historic vs Forward looking / Promptness vs cost reflectivity
- ◆ **Is an idealised Stack susceptible to gaming?**
  - ◆ Manipulation of MEL to alter feasible bids and offers?

# Idealised Price Stack – Observations/Thoughts

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- ◆ Could play a part in an efficient Imbalance Price Methodology
  - ◆ but would not appear to be a solution by itself
  - ◆ Still need to address issue of Option costs
  - ◆ Still need to look at impact of “SO honouring Dynamics”
- ◆ Could reduce the spread in a dual price scenario
- ◆ Could be utilised under single price regime
- ◆ Need to assess if it is susceptible to gaming