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The Trade and Industry Select Committee
7 Millbank
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Dear Sirs

Fuel Prices Inquiry

Introduction

1. I am an independent consultant advising clients on issues in the energy utilities and financial services industries. Before going independent in 2002, I spent 7½ years working for Yorkshire Electricity Group plc in their regulation and energy trading teams and 10 years working for BP, including a two year period working amongst the oil trading community.

2. This submission considers how prices are set in commodity markets and how inefficiencies in price setting affect consumers. Although Ofgem have established markets in many parts of the energy utilities industry, the processes behind price setting have not received significant attention. The consequence is that while markets are used to set prices, there is insufficient understanding of whether the prices generated are reliable indicators of the value of the gas and electricity traded.

3. If the gas and electricity markets do not generate reliable values for their products, customers will end up paying extra, as suppliers and traders will be willing to pay premia above expected values to reduce their risk. In effect, the creation of uncertainty leads to the transfer of value from consumer through suppliers toward those willing to take on the risk. Unreliable prices also confound answering to what extent price rises have been a temporary response to short-term supply problems or the start of a long-term increase in UK energy prices.

4. After looking at the factors involved in price setting, this submission considers the impact on consumers and the implications for future regulation of the sector.

The Process of Price Setting

5. The factors that influence prices can be grouped into three generic types. Firstly, there are the fundamental issues of supply and demand – factors such as how much oil is physically in the tanks in Rotterdam and how much oil will China need

to fuel its economic expansion. But at any point in time prices are also influenced by "technical traders" or "chartists", who focus on the patterns from past prices, rather than the physical situations that drive them. These analysts are focusing on trends in prices and the sentiment displayed by market participants through their transactions. Thirdly, traders make decisions in response to headlines – these can be public news headlines or private news about changes in the company's position. Traders use their experience and judgment to assess the influence of the news to their trading strategies. Part of the skill of a good trader is being aware of the contribution each of these factors is having on prices at any point in time.

6. These factors influence the market over different timescales. Supply-demand fundamentals are driven by long-term macroeconomic factors and shorter term discontinuities, particularly on the supply side. Technical analysis typically informs shorter term trading strategies, while headlines have an immediate effect. However, as well as their independent contributions to price setting, the interactions between these factors also influence prices to produce a complex picture that analysis of the individual elements cannot capture adequately. Each of these factors is considered in turn.

Supply-demand fundamentals

7. Working through potential supply and demand-side responses is the cornerstone of the market's approach to price setting and Ofgem's approach to investigating its markets. However, there are not simple linkages between market fundamentals and the prices that ensue. Models that convert supply and demand to prices from first principles use many assumptions. The range of assumptions generates a range of prices for the marginal source of supply. In practice, price setting is also a function of the flexibility each participant has in its commitments. This flexibility is a prerequisite for responding to market situations and determining the opportunity cost of the response.

8. If the scope of a market is not defined clearly, assessing supply and demand becomes more subjective and assessments of the state of the market can diverge significantly. But even when markets are well defined, different participants will have different perspectives on the importance of a market. For example, the UK market is one of the largest in Europe and has been a focus of attention for North Sea gas producers. The inability to export gas, until the commissioning of the Bacton-Zeebrugge interconnector in 1998, created a common interest between the onshore and offshore parts of the gas industry to promote gas consumption in the UK to meet the potential supply. For European companies, most of whom do not have significant indigenous supplies, gas has been a part of the picture, but more interchangeable with other fuel sources such as heating oil. For the UK industry, flexibility is primarily from the supply side. For Europe, flexibility can also be generated from the demand side switching fuels. This reinforces the link with oil prices and allows continentally-centred businesses to treat the UK as a peripheral market that can be supplied if the price is right; i.e. above alternative fuel costs.

9. If fundamentals are to be reflected effectively in prices, there need to be participants in the market who are willing to take contrarian views and test the prevailing mindset. If the major players are driven by similar objectives and held back by similar constraints, there is little chance for the contrarian view to profit by challenging the valuation assumptions used by the majority. In these

situations, market values can become divorced from the real world because the assumptions used to support the valuation are inappropriate.

10. Ofgem's investigation, which looked closely at the potential sources of supply and the values that could be attributed to each source, illustrates this. The analysis concluded that the prices reached shortly before publication of the report could be justified on the basis of the assumptions used. However, the ability to justify a price does not mean that the price is right for the circumstances, as many investors found in the dot-com bubble. The distinction needs to be drawn between a price and a fair and reliable price. The assumptions used are the difference and Ofgem's report did not comment on the validity of the assumptions required.

<u>Market Trends and Sentiment</u>

11. Fundamental information, such as supply-demand balances, is not the only influence on prices. In financial and commodity markets, the pattern of prices emanating from a market is itself studied. These "technical" or chart analyses provide information on the trends in the market and are tools used by some traders. In effect, these tools draw conclusions about the sentiment of the market.

12. There is much debate about the usefulness of these analyses. However, as far as the operation of a market is concerned, one effect is that certain values gain increased significance solely because they are outcomes of these analyses. They become self-fulfilling prophecies. Some values are derived on the basis that a trend in recent prices will continue; others merely because some numbers (particularly multiples of ten, a hundred or a thousand) have a psychological effect.

13. At this point, price setting is no longer in the realm of a fundamental supply-demand balance, but has taken on behavioural and psychological influences

14. Ofgem attributes 46% of the increase in prices for winter 2004/5 to changes in market sentiment and the market risk premium. Some of this will relate to uncertainty caused by the changes in oil prices and in production from the North Sea. However, to rationalise the prices observed in the market, Ofgem had to assert that traders are assuming a 1-in-50 winter scenario, which, if true, has wide ranging implications for the country. By contrast, the country has experienced a cold winter only twice in the last fifteen years. Ofgem's investigation appears to conclude that this assertion is not a matter worthy of further consideration.

<u>Trader's Judgments</u>

15. In markets where no one player is able to exert undue market power, the participants have to deal with incomplete information. In these circumstances price setting is also a function of the judgments made by an individual trader, informed by beliefs about the positions of other players and an understanding of the rules of the game, of past behaviour and of the opportunities available. Once a trading opportunity appears, the question becomes "at what price?" Should the price change by 2p/therm, 4p/therm or not at all?

16. The rules of the game can themselves create opportunities. In the gas market, Transco's responsibility to keep the system in balance and its obligation to not

enter speculative positions means that whenever it enters a market, it is doing so as a partially distressed participant. Knowing that Transco is the counterparty moves the balance of power over the transaction away from Transco.

17. Another judgment that needs to be made is about loss minimisation. If the trader's decision is wrong, how easy will it be to reverse the position? Although seemingly counter-intuitive, good traders are conservative creatures – in the sense that they will only get into a position if they have confidence they can reverse it at little cost. This drives the desire for deep and liquid markets.

<u>The Interactions between These Factors</u>

18. Markets adapt to the information presented. At any instant, new information has more weight than information which has been around for some time and factored into prices. However, markets do not immediately forget information once it has been factored into prices. The significance of information persists. For example, the Bacton-Zeebrugge interconnector experienced technical problems during 2002 and 2003. Operational solutions have been put in place and the incidence of these problems has diminished. However, traders continue to express concerns about the reliability of the interconnector as a potential supply source. This information persists in the perceptions of risk associated with interconnector delivery, which feeds back into the values attributed to potential supplies from the continent.

19. In addition, a market does not discriminate between sources of information. In the mind of a trader who is weighing up different opportunities and seeking to maximise the value of his portfolio, new information about industry fundamentals, market trends or individual positions can be equally valid contributors to the trading decision.

20. Ultimately prices should revert to those expected by supply-demand fundamentals. However at any time the price for a commodity will be an accumulation of the three factors – the fundamentals of supply and demand, overlaid by the influences of market sentiment and trading judgment. Each of these factors interacts with the other two to create a complex picture: trading judgments will be coloured by views on fundamentals and on the market's trend; market sentiment is an aggregate of traders' decisions about short-term opportunities in the context of the fundamental supply-demand position; the fundamentals can be suppressed by judgments and sentiments that are driven by different agendas.

21. The consequence is that wholesale market prices are not just the result of a rigorous analysis of the supply-demand balance and the values that can be attributed to supplies from different sources. It is also necessary to understand the motivations of the participants in the market and model the interactions between information, sentiment and behaviour. The greater the influence of sentiment and behaviour, the greater the potential for misvaluation of a product.

<u>The Effect on Consumers</u>

22. There are many examples where markets overreact to the information provided to them and misvalue their products. The rapid increase and subsequent decline of the UK stock market between 1997 and 2003 is a recent example. The effect of these misvaluations is to reduce confidence in the market and create uncertainty over the reliability of the prices generated. To handle this uncertainty, some

participants will be willing to pay a premium over fundamental values to gain security. This risk premium can be considered as a measure of how efficiently a market ascribes values to its products. The greater the risk premium, the more uncertainty there is about the true value of the product being traded.

23. The consequence of these misvaluations is that the risk associated with the market is greater than it should be. Suppliers pay higher risk premia to manage the uncertainty, which they pass on to customers. Ofgem's duty to protect customers' interests should extend to considering what level of risk premium is appropriate and, if the premium is considered excessive, how markets can be made to function so that it is competed away.

The Implications for Future Regulation

24. The approaches used by Ofgem to look at competitive markets no longer appear to be fully fit for purpose. They are part of the toolkit, but Ofgem and the DTI need to work out how to regulate a more complex environment. The current approaches rely on the ability to attribute discrete silos of responsibility to a licensee and then set obligations that apply for that silo. This can be applied effectively in a monopoly or franchise environment.

25. However, in competitive markets, the outcome at any time does not flow from a discrete silo, unless undue market power exists, but flows from the interactions between participants who are continually trying to assess how to maximise the value of their resources. The current regulatory approach breaks down when it cannot find a licensee that has breached an obligation.

26. In effect, there is a need for a change in the regulators' mindset. Big change projects have been the *modus operandi* of energy regulators. This was appropriate for introducing liberalised markets, reforming the wholesale markets and managing price controls. However, now that these changes have been made, the emphasis needs to shift toward fostering a competitive environment where there is intense rivalry between participants. The shift in mindset requires regulators to create an environment where participants have confidence that innovations will only be competed away, rather than regulated away.

27. This requires all parties, not just Ofgem, to think through the purpose of regulation in a particular situation. In some cases, the purpose is to set minimum standards; in others the purpose is to enhance the intensity of competition between participants. This should be an early topic of discussion and consultation, otherwise there is a danger that inappropriate tools will be used.

28. Ofgem initiatives have regularly focussed on removing the barriers to entering the energy markets. As well as this, regulators need to think about the factors that foster rivalry between participants. Recent discussions have focused on the availability of information, particularly from UK offshore operators. The market can have as much information as it wants, but if the market structure does not allow players to take positions against the trend without incurring significant risk, the information will not be useful. In effect, regulators and other parties need to consider market structure, not only at the corporate level, but also at the sectoral level, looking for the factors that will constrain participants to think and act in the same way or not be willing to take an opposing view.

29. As well as considering the purpose of a regulatory intervention, regulators need a greater understanding of the assumptions, processes and behavioural factors

that lie behind trading decisions. Agent-based modelling, where outcomes are also dependent on the interactions between market participants, has been used in some markets. Considering these factors will help regulators assess whether market values are reliable. Looking at supply-demand fundamentals alone will give only a partial answer to a complex situation.

30. If you wish to discuss any of these comments further, please contact me.

Yours sincerely

Arthur Probert