

COPIED FROM
NAT IND

GAS PT 12

~~CLBG~~

NSP A.

CONFIDENTIAL

P 02059

From: J B UNWIN

13 May 1986

NOTE FOR THE RECORD

cc Sir R Armstrong

Mr Wiggins

Mr Norgrove - No 10

COAL AND ELECTRICITY PRICES

The Secretary of State for Energy was invited by E(A)86 12th Meeting to encourage the ESI and the NCB to negotiate an interim reduction in coal prices to reflect the fall in oil prices. Although no specific time period was set, Ministers had in mind an arrangement covering the summer months and the Energy Secretary himself talked in terms of a rebate of between £150 and £200 million.

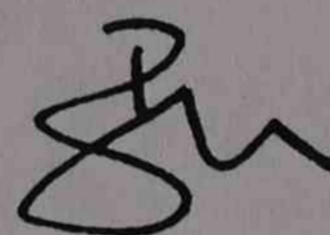
2. According to Department of Energy senior officials, the present position (on which there have been recent press leaks) is as follows. The two Boards have drawn up an agreement, ad referendum to their Chairman, comprising specific arrangements to cover the next 12 months, and a longer term understanding. The Department do not yet know the details of the longer term arrangement; the deal for the next 12 months, however, is expected to add between £240 and £270 million to NCB costs, and to reduce electricity tariffs by 3% over the next 12 months. This reduction would initially be made through the Bulk Supply Tariff (BST) and would thus immediately benefit large industrial and commercial customers; it could then be expected to be passed on to domestic consumers when the next quarterly bills are presented.

3. The cost to the NCB is before taking account of savings by the NCB itself. I have reminded the Department that the Secretary of State was urged by E(A) to put the maximum pressure on the NCB to reduce their costs (particularly the capital investment programme) in 1986-87.

COPIED FROM

4. Department of Energy officials are about to discuss the proposed arrangements with the Treasury. At first glance, they appear to be within the broad scope approved by E(A), although the 12 month agreement is a good deal longer than E(A) or the Secretary of State himself had envisaged (I understand, however, that it contains appropriate escape clauses related to the price of Heavy Fuel Oil).

5. I have asked the Department of Energy to ensure that the Secretary of State reports the outcome of these discussions to the Prime Minister and other members of E(A) as soon as the full details are known and discussions with the Treasury have been completed. I have been assured that there is no question of any public announcement before collective Ministerial endorsement has been obtained.



J B UNWIN

Handwritten scribble



Pls please

CABINET OFFICE

With the compliments of

J. B. UNWIN

Handwritten signature

70 Whitehall, London SW1A 2AS
Telephone 01 233

263/4

CONFIDENTIAL

CCBG

Y2014

Brigadier Budd

c. Mr Norgrove (No 10)

COY 10

Mr Unwin

Coal Stocks at CEEB Power Stations

1. I have now spoken to Dr Heathcote (D/Energy) to enquire if the S of S for Energy was likely to report further to the Prime Minister about the prospects of achieving a power station stock level of 27 million tonnes by October this year - in view of the stocks at the end of March being some 2.5 million tonnes less than had been intended, due mainly to the very cold weather in the January-April period.

X | 2. Dr Heathcote said that D.Energy believed that the target of 27 million tonnes by October was achievable and there was therefore no need to report again at this stage.

Y | 3. He also pointed out that the future level of coal stocks was the subject of discussion in E(A) in relation to the recent large decrease in the price of oil and it's implications for the future of coal production. I am not aware of the details of E(A) discussions but it would seem that some of Misc 57's follow-up work on the miners' strike might have been taken up by E(A).

4. Could I please discuss this with you at some convenient time so that I avoid carrying out unnecessary work - or avoid inflicting unnecessary work on others.

J Budd

BRIGADIER J A J BUDD
30 April 1986

Thankyou. On X, I should be grateful if you would record this in writing to Dept of Energy & say that, if they had any reason to reverse this view, an early report to No 10 would be necessary.

Y is nonsense. The subject was not discussed or even, to my recollection, raised at the E(A) meeting on oil & coal prices. We can

CONFIDENTIAL

continue to handle it separately.

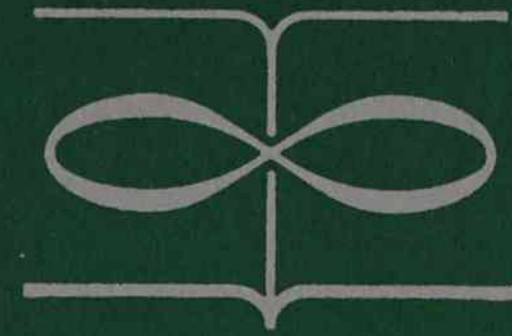
J Budd

30/4/86

NAT. IND - Coal Pt 19,



FORECAST RELEASE



4

Volume 10 number 7 EMBARGO: 00.30 HOURS MONDAY 28 APRIL 1986

April 1986

THE COAL INDUSTRY AFTER OPEC III

BILL ROBINSON

Immediately after the year-long coal strike the prospects for the industry appeared remarkably bright. Normal production was resumed more quickly than expected. The fall in the exchange rate, especially against the dollar, had greatly lessened the threat from cheap imported coal. The number of miners employed in deep mines was quickly reduced from 180,000 to 140,000, and the closure of uneconomic pits enabled production in the new super-pits to be stepped up. The resulting sharp rise in productivity meant that the underlying position of the industry was close to break-even, and at the coal prices prevailing last year could even have made a modest profit.

The fall in the price of oil has plunged the industry into a new crisis. To preserve coal's market share, its price must follow oil prices downwards, which will drastically reduce the amount of coal that can be profitably produced in this country, with obvious implications for employment. In this Forecast Release we present some calculations (using the approach we adopted in earlier articles published in October and December 1984) which show the scale of the required reductions, and consider the policy implications. We conclude that there is no case for constraining coal prices to remain above true market-clearing levels, since this amounts to a concealed tax on coal- (and hence electricity-) users which would hamper the employment-creating growth of manufacturing industry. There is however a strong case for allowing the coal industry to increase its borrowing to cover the deficits that result from keeping higher-cost pits in production in order to reduce future dependence on imported oil.

Relative Prices and Market Share

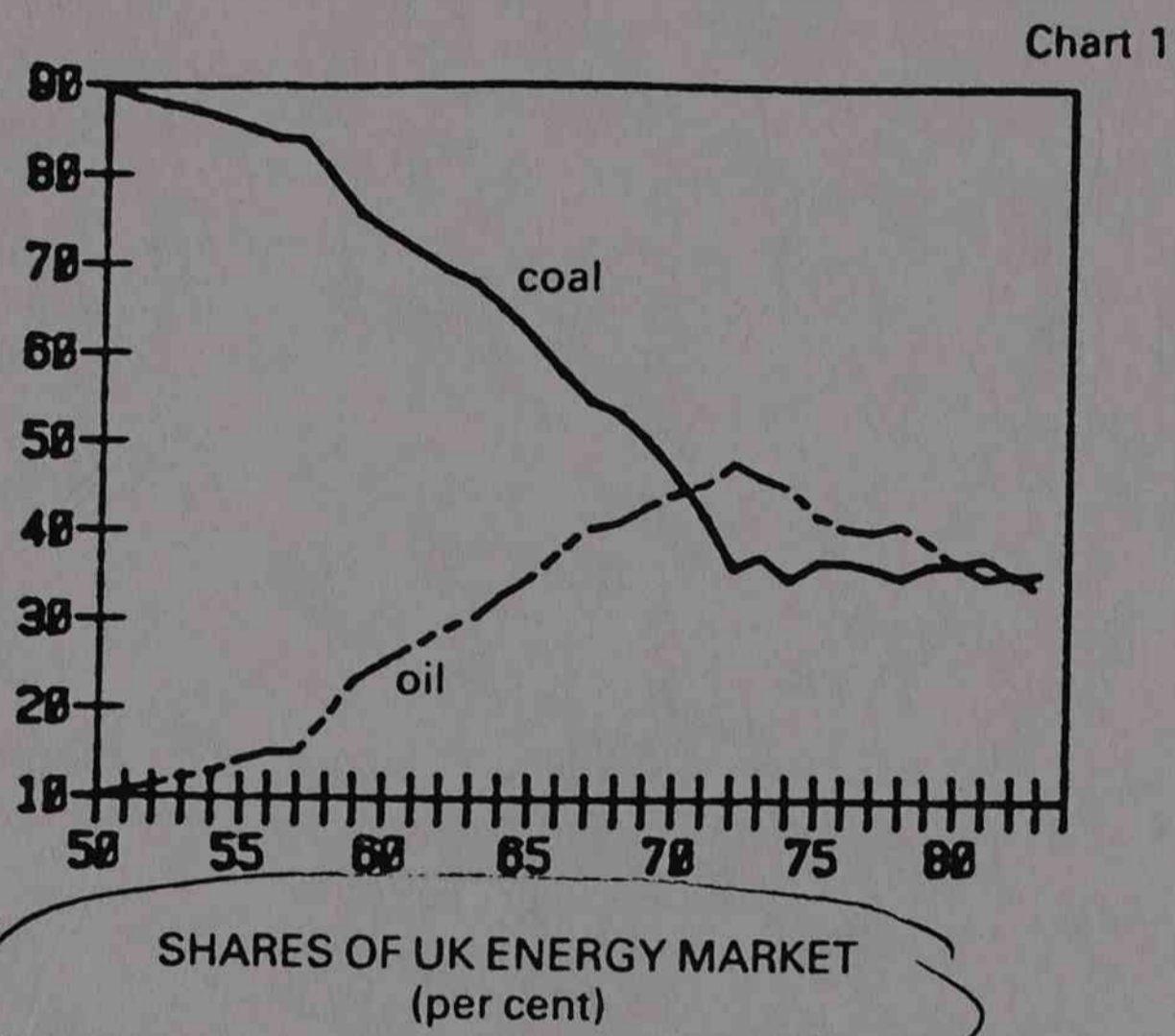
The UK sterling oil price was fairly steady at around £20 per barrel in the period 1982-5 and coal prices have also been fairly constant over that period. Since December 1985 the price of oil on world markets has fallen from \$26 per barrel to well under \$15, with some trades occurring on the spot market at less than \$10 per barrel. Under these circumstances the price of the major fuels which compete with oil must also – eventually – fall.

The fall is not immediate because buyers cannot switch quickly from one source of energy to another. Costs of conversion are large, so although gas is much cheaper per therm than either coal or oil, many of those with (for example) coal or oil-fired central heating continue to buy coal and oil rather than change their heating system. Moreover, the time taken for conversion between one source of energy and another means that the choice is not governed just by today's price. The key factor is the expected future price.

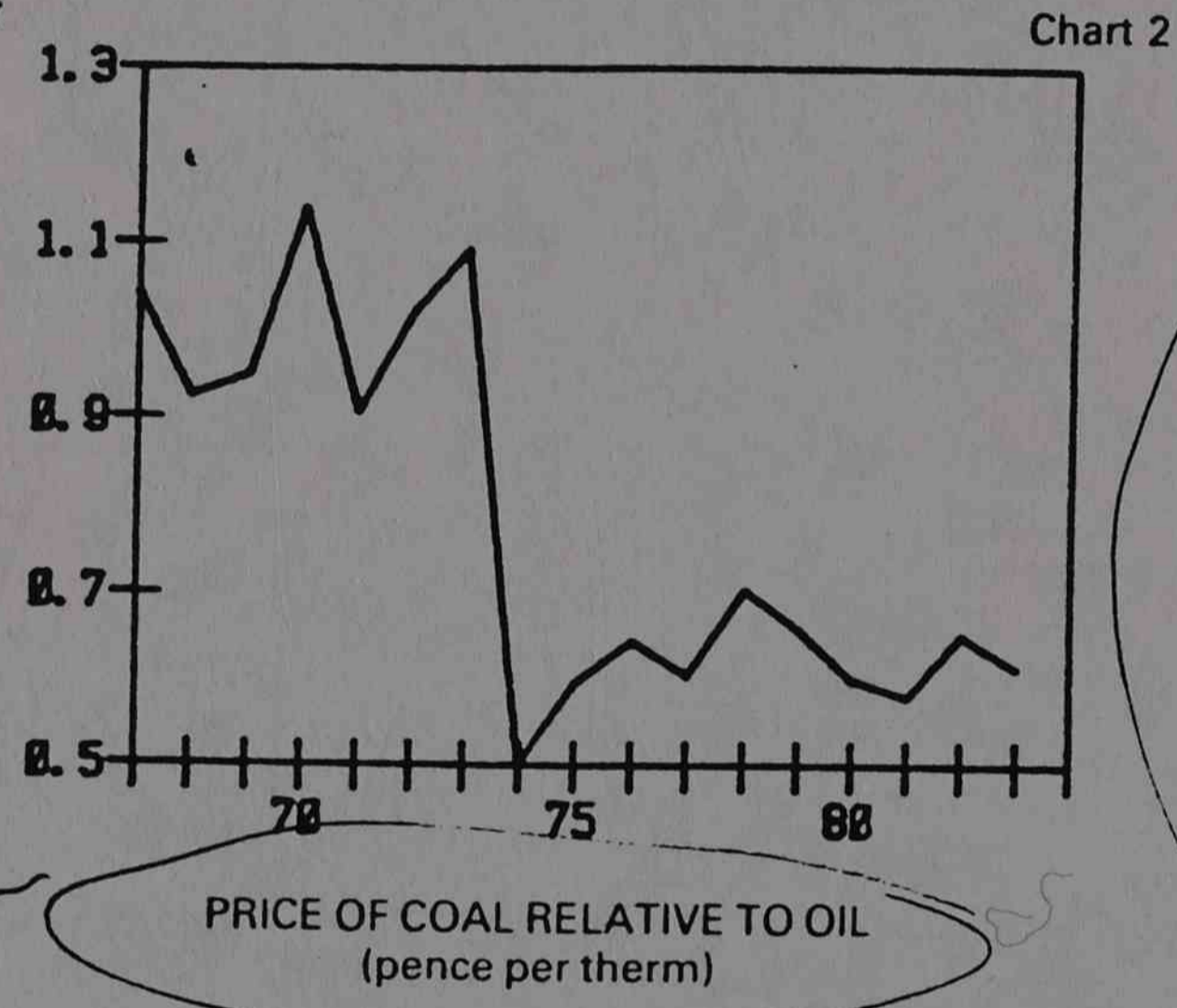
In the energy field, the most important set of price-determined choices are those between different types of power station to generate electricity. A power station takes fifteen or more years to build, so the choice between a new coal- or oil-fired station must depend on the relative prices of coal and oil in the year 2000 and for many years (the life of the station) thereafter. The fact that today's oil price is well below the coal price is not a compelling reason to switch from coal to oil, and the fact that the coal price has fallen far less than oil shows that demand for coal is holding up well and users are not (yet) switching.

These considerations suggest that the market share of different fuels will change fairly slowly in response to price movements. Chart 1 shows that such changes nevertheless occur, and Chart 2 suggests strongly that they are price related. As long as coal was priced at parity with oil on a pence-per-therm basis, it steadily lost market share because coal is a distinctly inferior fuel from the user's point of view – it is costly to transport, costly to store and creates costly waste. These disadvantages were sufficient to induce users to switch from coal to oil until the first oil shock in 1973. That event sharply increased the relative attraction of coal by giving it a 40-50 per cent price advantage. It also raised important questions about the long-term security of oil-supply, giving coal a potential non-price advantage subsequently eroded by the poor strike record of the industry.

Since the mid-1970s the Coal Board has priced its coal so as to maintain a price advantage of around 35-40 per cent, and has with that policy succeeded in holding its market share. However, the dramatic fall in the price of oil threatens to push the coal-oil price ratio well above the levels prevailing in the 1960s. If the present ratio is maintained, the Coal Board must expect to start losing market share again, at the rate of about 3 percentage points per year. On that basis the industry would have shrunk to nothing before the year 2000.



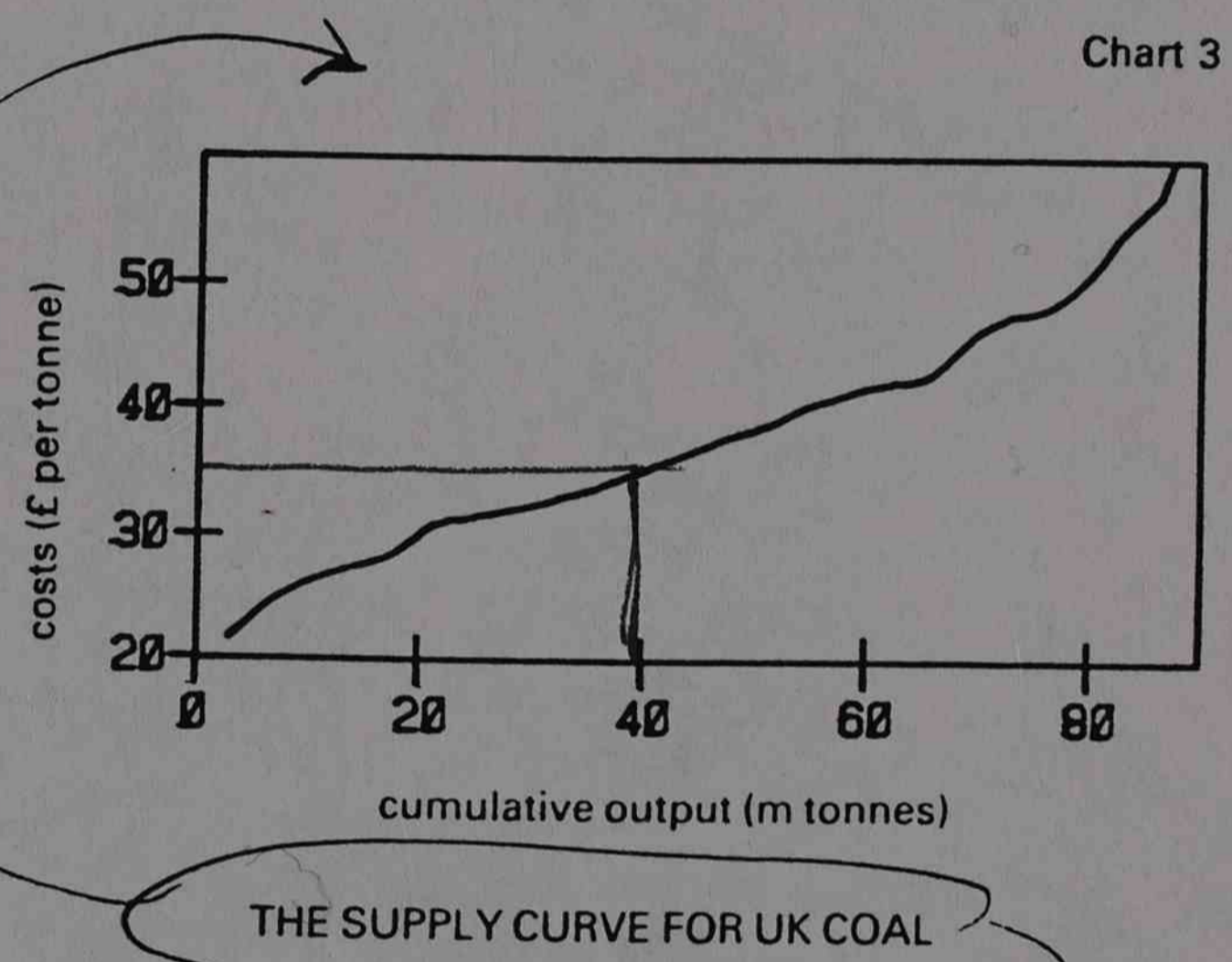
SHARES OF UK ENERGY MARKET (per cent)



PRICE OF COAL RELATIVE TO OIL (pence per therm)

has been updated to 1986-7 by applying Coal Board data on aggregate wages and productivity to each pit and taking account of closures. It may therefore be inaccurate in detail since there are bound to be pits which diverge from the industry norm, but as an overall picture of the UK supply curve for coal it is unlikely to be seriously misleading.

A crucial element in the calculation is the behaviour of productivity. In recent years output has fluctuated in the range 2.3-2.4 tonnes per man shift, but since the end of the strike, accelerated closure of uneconomic pits has enabled the Coal Board to step up the output from the more efficient pits. The result is a sharp increase in productivity, and if progress is maintained the average for 1986-7 could be in excess of 3.0 tonnes per manshift. We have used that figure in the calculations shown in the charts. (We also show below the consequences of making alternative assumptions.)



THE SUPPLY CURVE FOR UK COAL

These facts have not escaped the Central Electricity Generating Board, which is currently negotiating a reduction in the price of coal. The CEGB's position is strengthened by its experience in using oil-fired generating stations during the coal strike. These stations, though uneconomical with oil at \$25 per barrel, are commercially viable at present prices. The CEGB can thus, unusually, threaten an *immediate* switch from coal to oil unless prices come down. Given the strength of their position (and the enticing prospect of lower electricity prices, which is helping to win them government support) it seems likely that prices will soon start to come down.

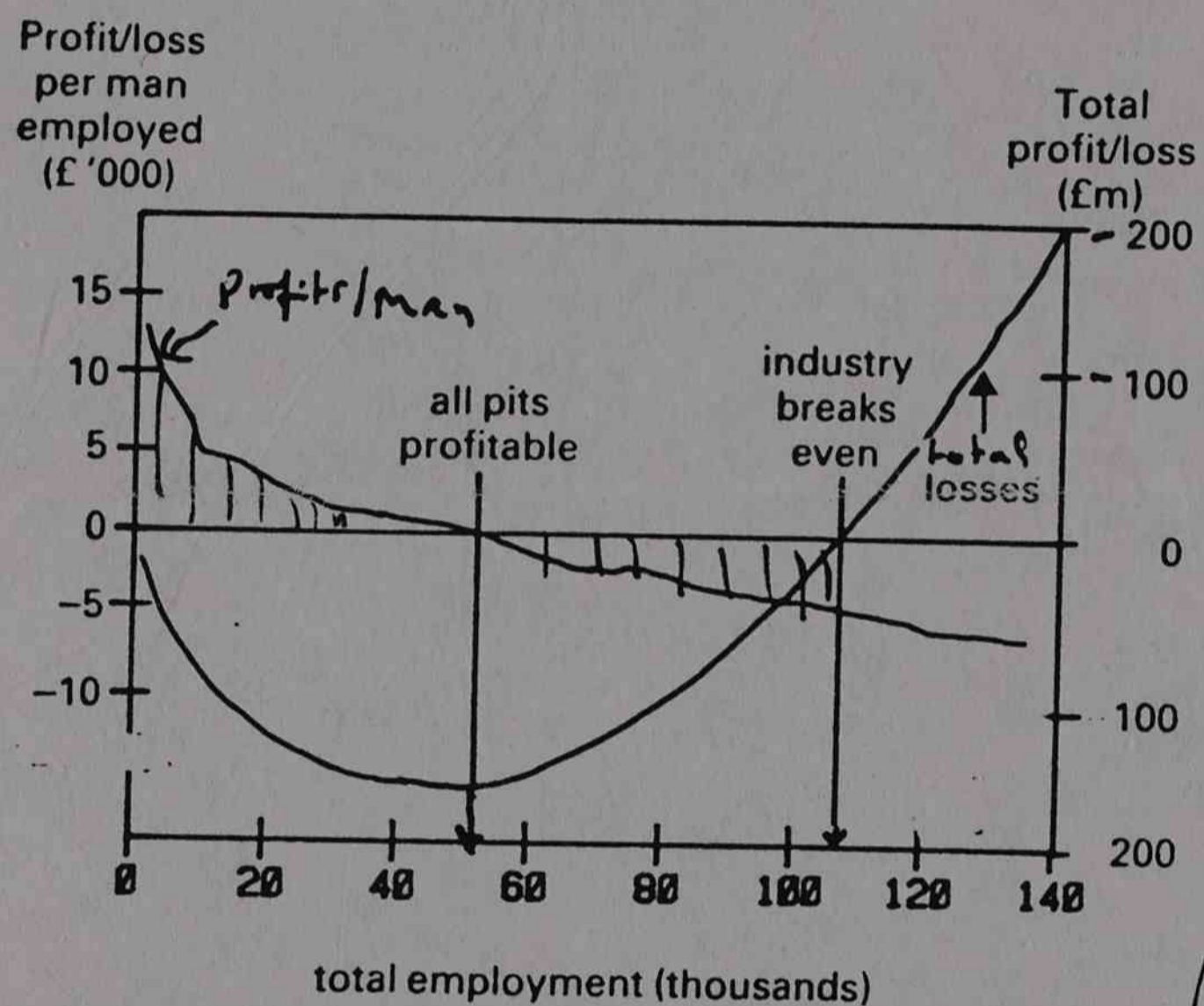
The Consequences of a Lower Coal Price

If the price of coal does fall, what are the consequences for the industry? To assess this we have to look at the cost curve. This has been plotted in Chart 3, where each point represents a coal pit. The vertical axis shows the estimated cost of production in 1986-7 for each pit. The horizontal axis shows the total production that is possible at or below that cost. The chart has been constructed from data for 1981-2 supplied by the Coal Board to the Monopoly and Mergers Commission. It

An important feature of Chart 3 is that the supply curve for coal is, over the critical range, very gently sloping – in other words there are a large number of pits with a similar cost structure close to the margin of profitability. This means that comparatively small changes in the price of coal make a large difference to the number of pits that are profitable. This has important implications for the debate on closures. It implies that a comparatively small fall in the price of coal can threaten a relatively large number of jobs in the pits that are close to the margin. But it also means that a comparatively small amount of subsidy or borrowing could secure a relatively large number of jobs.

Given the available information on costs, prices and employment in each pit, it is possible to calculate the implied cost per job of keeping loss-making pits open, and hence the cumulative subsidy to the industry associated with any level of employment. The results of these calculations are shown in Chart 4, which ~~again~~ has been computed on the basis of an average coal price of £35 and the wage and productivity assumptions described above. However Chart 4 takes into account, as Chart 3 did not, variations in the quality, and hence the selling price of coal from pit to pit. Chart 4 also

shows how it is possible to calculate, for any given coal price, both the level of employment associated with the requirement that all pits are profitable, and the level of employment that would result from meeting the less stringent requirement that the industry as a whole break even, with the profits from the efficient pits being used to subsidise the operations of the less efficient.



PROFITS AND EMPLOYMENT

The chart suggests that at the assumed wage, price and productivity levels prevailing this year, the industry will have to shrink from its current level of 140,000 men to only 110,000 in order to break even. If it is required that every pit be profitable, then there will only 53,000 jobs in the industry.

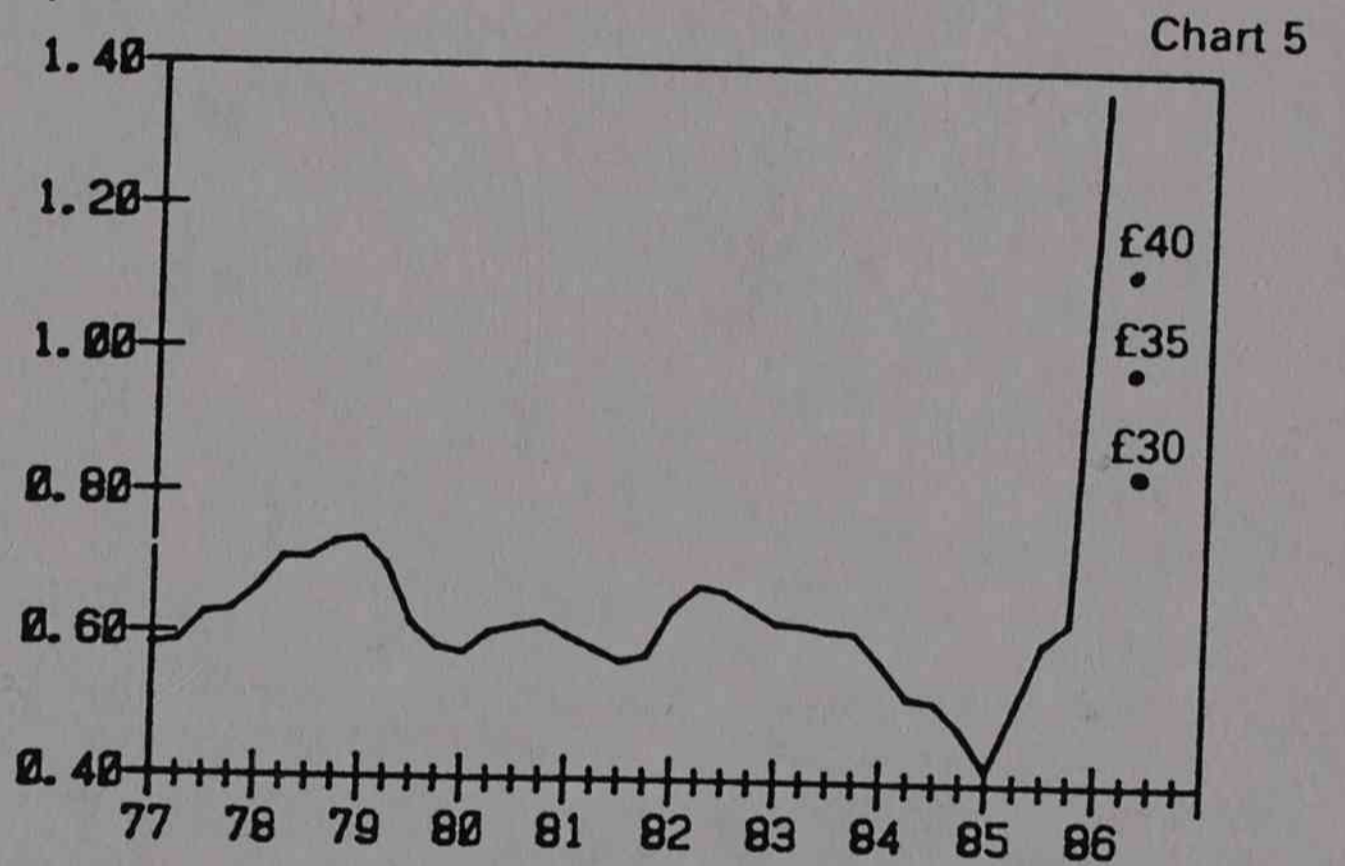
These estimates are surrounded with enormous uncertainty - uncertainty about official intentions (all pits break even or industry breakeven) uncertainty about productivity performance and, above all, uncertainty about the coal price. To illustrate these uncertainties Table 1 carries two simulations to show how the industry might have looked in the year just ended under two alternative productivity assumptions, and a further three simulations to illustrate prospects for the current year under three different price assumptions.

In 1985-6 productivity was still strike-affected, rising sharply during the year from below pre-strike levels to the new (much higher) post-strike norm. At the same time expectations about future coal prices were being progressively revised downwards. The figures nevertheless bring out very clearly the extent to which the industry has benefited from an improved productivity performance. With coal prices at £45 per tonne and productivity at 3 tonnes per manshift our calculations suggest that the future of the industry was more secure than for many years. This is borne out by recent reports that the South Wales area, for example, achieved a 45 per cent jump in productivity, and recorded a net profit in March, the first time it had done so since 1972.

The other side of the productivity improvements has

been further reductions in employment, which had shrunk to 139,000 by the end of the 1985-6 financial year. If the coal price remained at last year's exceptional levels, there would be employment for a high proportion of these in profit-making pits, provided the recent productivity gains were maintained. If by contrast productivity fell back to pre-strike levels, there would be jobs for only 86,000 men in profitable pits - though the high coal price might make it possible for the industry as a whole to reach profitability at existing manning levels.

In fact it is highly unlikely that coal prices will remain much longer at their present levels, given the fall in the price of oil. The 50 per cent fall in the price of oil this year has as yet had surprisingly little effect on the price of coal, even in the spot market, and its relative price compared with oil is now at a historic and clearly unsustainable peak, as Chart 6 shows. But as long as low oil prices persist, the question is not whether the coal price will fall, but how soon and by how much.



Q2 estimates assume oil price at present levels and coal prices as shown (£ per tonne).

PRICE RATIO: COAL TO OIL (pence per therm)

We have considered the effects on the industry of a (conservative) fall in the coal price to £30-40 per tonne, which still leaves the relative price of coal at a historic high. Table 1 shows that even this effectively removes any hope of bringing the industry to the point where the current workforce all have secure jobs in profitable pits. With the price at the top of the illustrative range the number employed in profitable pits shrinks to 86,000. As the coal price falls below £38, the industry as a whole moves into deficit, raising the prospect of a new wave of pit closures in order to break even. At £35 the required closures match those which provoked the 1984-5 strike. If the price falls to £30 then profitable production is really only possible in a few "super-pits" and the industry shrinks to a small rump of some 30,000 miners, producing only a quarter of today's potential output.

The Policy Response

These gloomy prediction depend on the wage and productivity assumptions spelled out in Table 1. If there were no increase in wages (unlikely) or a much greater increase in productivity (quite possible), then the level of profitable employment and output would be greater. But the scale of the probable fall in the coal price is unlikely to be offset by wage restraint or productivity improvements. So if oil continues to trade at around \$10-15 per barrel, the coal industry and its political masters face the following choices:

Strategy 1: Sell coal at current high price

This would enable the industry to stay, in the short term, at around its present size without a government subsidy. There would however be a concealed subsidy from energy users, mainly paid in the form of high electricity bills. And as long as the disparity between coal and oil prices persists, energy users would convert to oil. If oil prices remain low this would slowly but surely strangle the industry.

Strategy 2: Sell coal at competitive prices

With no incentive to convert to oil, domestic demand for coal would be maintained. But the industry would make a loss if it remained at its present size. This would imply a choice between a further round of pit closures – which might be bitterly regretted if the oil price subsequently recovered – and borrowing to keep open capacity which is currently uneconomic. This could be regarded as an investment, which would reap a return if and when oil prices rise again. Like all investments it would be kept under constant review and could be discontinued if ever the cost became excessive in relation to the prospective return.

In the present climate it seems likely that strategy 1 will be chosen. The government wants to eliminate the

subsidy to the coal industry. The coal board would prefer the independence which it would then enjoy. It is not yet certain that oil prices will be low for ever, so that users will be slow to convert to oil even if coal prices remain high. These are good reasons for taking what is in any case the line of least resistance and hoping that the problem of low oil prices will disappear before too much damage is done.

The disadvantage of strategy 1 is that in the short term it places an arbitrary burden on coal users, handicapping energy-intensive industries which ought to flourish and create new jobs in a cheaper-energy world. In the longer term it condemns the industry to inexorable decline if oil prices do not rise again.

There is a good case for keeping open pits which are not profitable at *present* energy prices as an insurance against much higher energy prices in *future*. This will mean a loss for the Coal Board, but as long as the industry is obliged to charge a competitive price for its product (e.g. by allowing the CEGB to use cheap imported coal or oil as they wish) this does not distort the energy market. The External Financing Limits of the Coal Board ought to be extended to allow them to finance such a loss, which serves simply, at an explicit and transparent cost, to keep output and employment of the UK coal industry at a higher level than it would otherwise be. If the assumption that this will produce savings at some future date when energy prices rise again becomes patently unrealistic, the borrowing will become hard to finance, and can be discontinued.

For these reasons we believe strategy 2 would be in the long term interests both of the industry and the country at large, but its adoption would require jettisoning much ideological baggage, both by the Coal Board and by the government. The outcome is likely, as so often, to be determined more by political expediency than economic rationality. The losers will be those who produce and consume coal.

Table 1
The Coal Industry: prices, wages and employment

	Coal price £/tonne	Productivity tonnes/man shift	Wages £/week	Coal Output (m tonnes)			Employment ('000s) ⁽⁴⁾		
				All pits profitable	Industry breakeven	Actual	All pits profitable	Industry breakeven	Actual
1981-2	35.6	2.43	156.4	45	92	109	66	165	218
1984-5 ⁽¹⁾	41.7	2.43	173.0	40	80	96	59	138	174
1985-6 ⁽²⁾	45.0	2.43	191.0	55	99		86	185	139
	45.0	3.00	191.0	87	–		151	–	
1986-7 ⁽³⁾	40.0	3.00	206.0	55	103		86	197	
	35.0	3.00	206.0	37	68		53	110	
	30.0	3.00	206.0	9	25		11	34	

⁽¹⁾ Estimates of underlying levels. Actuals are strike affected.

⁽²⁾ Average conceals sharp changes through the year, with coal prices falling and productivity rising.

⁽³⁾ Coal prices in likely range. Productivity assumption conservative.

⁽⁴⁾ Estimates of profitable employment are generally overstated, because calculations ignore geological deterioration