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CABINET

MINISTERIAL COMMITTEE ON ECONOMIC STRATEGY

GAS PRICING POLICY AND THE FINANCIAL TARGET FOR THE
BRITISH GAS CORPORATION

Note by the Secretary of State for Energy

1. In July, and again in September, we decided that it would be necessary to raise domestic gas prices as part of our strategy for containing public expenditure and reducing taxation (CC(79)11th and 15th). The issues have very recently been discussed in the Sub-Committee on Economic Affairs (E(EA)(79)15th) and I now seek endorsement for my proposals.

INDUSTRIAL GAS PRICES

2. It has been the policy of British Gas to sell gas to industrial users at a price broadly related to that of the competing oil product. Any approach other than market-related pricing would lead to excess demand and thence to some form of arbitrary rationing operated by BGC. Gas prices to industry have thus increased quite sharply this year (30-40%) and this led to complaints, particularly since industrial customers find themselves being asked to pay more (typically 20%) than domestic consumers, despite the costs of supply being lower.

DOMESTIC GAS PRICES

3. Domestic tariffs have been constrained over the years for reasons of counter-inflation and social policy to the point where gas is seriously underpriced in terms of a proper use of national resources. Despite dearer supplies, prices to the domestic consumer have fallen in real terms in recent years, by about a quarter since 1973. As the attached note by my officials explains, there are good grounds for regarding domestic gas as being up to 50% underpriced at present with 25% as a minimum. The recent report of the Price Commission on gas prices likewise concluded that the domestic tariff was 30-35% too low and British Gas themselves accept that domestic gas is underpriced.

4. Continued underpricing would raise difficult problems, quite apart from the public expenditure aspects. Demand for gas has surged ahead in the wake of the oil price increases and supply uncertainties earlier this year and BGC are concerned about their ability to meet peak demand in the coming winters. Continued stimulation of domestic demand by underpricing could only make matters worse and would either divert gas away from industry or involve decisions on rationing household consumption by BGC officials. BGC would increasingly be exposed to the charge that they were in breach of their statutory obligation to avoid undue preference between classes of customer; legislation could well be needed to protect their position which could be contentious. Finally failure to correct domestic gas underpricing would cause the price gap between gas and other fuels to widen as energy prices generally are expected to increase in real terms, giving rise to further market distortions.

THE WAY AHEAD

5. Correcting even the minimum degree of underpricing will be politically controversial. It is clearly impracticable to think of correcting it in one go, given the likely hardship to consumers. BGC themselves have recommended an average increase of 3% p.a. in real terms over the next three years but with a 7% real increase in the first year, but such slow progress would do little to meet the problems I have just mentioned.

6. I believe that we should set BGC a financial target which will cause them to raise domestic gas prices by an average of 10% per annum in real terms over the next three years or so. This would substantially correct underpricing assuming that the price of oil did not rise in real terms. This could mean a money increase in the range of 23-27% next April depending on the impact of inflation and the way it is measured. My reasons for these increases are that:

- i) they would provide a clear signal of our intention to adopt a proper market-related approach to gas pricing;
- ii) they would achieve a more efficient allocation of our indigenous energy and other resources and, in particular, would encourage further measures for energy conservation;
- iii) they would discourage the tendency for over-rapid growth of demand by domestic consumers (mostly in urban areas) at the expense of industry, particularly new industrial and commercial developments;
- iv) they would help finance BGC's proposals for bringing forward capital projects for transmission and storage facilities worth £407m in the years to 1984/85 which are essential if the Corporation are to cope with peak demand in the coming winters. This would provide a measure of presentational justification for the proposed price increase; and
- v) they should help meet the Chief Secretary's current requirements for BGC's contribution towards reducing public expenditure and the PSBR. As indicated in Annex A, real price increases of 10% p.a. would not suffice to meet the Public expenditure requirements for 1981/82 onwards after deducting the Corporation tax BGC will then start to pay in increasing amounts. The Corporation tax payments will however reduce the PSBR. For 1980/81 we would need to look for a further £90m savings from BGC if they are to meet our PSBR

and public expenditure requirements. A price increase of less than 10% p.a. could only make matters worse. For example, a 5% p.a. real increase could mean that nearly £800m would need to be raised from other sources over the next four years.

7. Raising domestic prices will, of course, attract plenty of public criticism particularly from those consumers who have switched to gas recently. Even so, gas would still be a good buy and would compete very effectively with other fuels. Moreover, higher gas prices would lessen the inequity currently experienced by the 30% of households who do not have access to gas, and firms who use oil.

8. The main presentational problem is the need to justify substantial price rises when BGC would be making pre-tax profits rising from £360m last year to around £1bn in the next two or three years, on the basis of my proposals. On the other hand, the Corporation's surplus cash is already being deposited with the Exchequer and in the coming years they will begin to pay substantial amounts of Corporation Tax. Both types of remittance serve to reduce the PSBR. There may be some advantage in going further and skimming off more of the surplus by means of a levy or an additional tax, so that declared profits would be reduced. Such changes could, however, have wider implications, for instance for exploration and depletion policy, issues that I am present studying.

9. The price increases proposed would also have implications for our efforts to contain inflation. However, the impact on the RPI (0.16% over and above the rate of inflation) would be relatively modest and insofar as the increase in gas prices feeds through on to the RPI it will automatically enter into the November 1980 up-rating of pensions and other benefits. A higher level of additional assistance will also be provided automatically to those on supplementary benefit who receive extra heating additions. These additions will be uprated by the movement of the fuels component of the RPI. Nevertheless, there is bound to be concern expressed about the impact of the proposed increases on the poor. In responding to this concern we will be able to point to the measures to provide additional help with fuel costs that the Secretary of State for Social Services will be announcing on 22 October. While these measures are aimed in the first instance at the coming winter they will be of continuing value to the elderly poor. We should stress the value of the additional assistance already available and about to be announced and say that we will keep the situation under review. In any event, the timing of any announcement on gas price increases will need careful consideration.

CONCLUSIONS

10. Political determination will be needed to raise domestic gas prices but I am in no doubt that we should move to economic pricing as soon as possible. The alternative of departing too far from market pricing in the face of undue demand is arbitrary allocation of supplies, risk of failure at peak periods, and eventually some form of rationing by BGC.

11. I recommend to my colleagues:

- (i) that domestic gas is significantly underpriced and should rise in real terms by an average of 10% per annum over the next 3 years or so;

(ii) that the increase from next April should be 10% in real terms which will mean an increase in money terms of 23-27% depending on the impact of inflation and the way it is measured;

(iii) that we endorse the general principles of BGC's existing pricing policy in non-domestic markets;

(iv) that I should consult with British Gas about their future financial target - expressed as a pre-tax return on assets at replacement cost - which would need to be consistent with our decisions on pricing policy;

(v) that I announce a 3-year financial target for the Corporation this autumn. I attach at Annex B a draft statement to indicate the way in which we might handle public presentation. I am not, however, seeking approval for this at present;

(vi) that BGC's cash limits should be determined in the light of the pricing policy adopted;

(vii) that we agree the proposals for additional capital expenditure on gas transmission and distribution facilities referred to in paragraph 6(iv);

(viii) we keep under review the possibility of assistance for poorer consumers.

Department of Energy
12 October 1979

PUBLIC EXPENDITURE ASPECTS

Requirement

1. The Chief Secretary's current requirement for the reduction of public expenditure by BGC to the Exchequer is as follows:

£m at 1979 Survey Prices				
80/81	81/82	82/83	83/84	
427	528	684	765	

British Gas will pay substantial sums by way of Corporation Tax but these are not included in the above figures.

2. The Chief Secretary's requirement was intended to represent the cash available from British Gas, net of tax, on the basis that domestic prices would rise by 5% p.a. The figures were extrapolated from a forecast prepared by the Corporation in the summer.

Cash available

3. Recent information from British Gas indicates that rather lower forecast profits are now expected, particularly in the initial years. This is attributed to revised oil price assumptions (upward) which increase the cost of gas purchased from the Northern Basin because of the escalation clauses in the contracts with the producers. This increase can only be partially offset by charging industrial customers higher prices and cannot be fully recovered until it is reflected in domestic prices. Although the forecasts are being refined for the cash limits exercise, the figures set out below are sufficiently indicative of the final position for the purposes of reaching a view on pricing policy. If better figures are available before the meeting I shall circulate them.

4. The following figures show estimates of the total cash expected to be available from British Gas, on various assumptions about the real rate of domestic price increase: after meeting £40/m capital expenditure. (see 7 below)

a) 5% p.a. :	Total contribution	295	360	670	900
	Corporation Tax	5	120	200	300
	Total net of tax	290	240	470	600
b) 7½% p.a.:	Total contribution	340	450	800	1000
	Corporation Tax	5	130	250	350
	Total net of Tax	335	320	550	650
c) 10% p.a.	Total Contribution	340	520	950	1100
	Corporation Tax	5	150	300	400
	Total net of Tax	335	370	650	700

savings would be made in earlier years (though the total payments would be greater because of interest):

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These sums could be added to BGC's contribution to the Exchequer.

1 October 1979

Deficit against requirement

5. The difference between the Chief Secretary's requirement (para 1) and the sums available from BGC net of tax are as follows (- means a deficit):

a) 5%	-137	-288	-214	-165
b) 7½%	- 92	-208	-134	-115
c) 10%	- 92	-158	- 34	- 65

Thus on this basis even a 10% p.a. real price rise would not satisfy the Chief Secretary's requirements.

6. On the other hand, if BGC's contributions to the Exchequer by way of Corporation Tax were included, the difference between the Chief Secretary's requirement and the cash available (i.e. gross of tax) would be smaller:

a) 5%	-132	-168	- 14	+135
b) 7½%	- 87	- 78	+116	+235
c) 10%	- 87	- 8	+266	+335

On this basis, there would still be a significant deficit in the first year though a 10% p.a. price rise would meet the requirement in the second year and would exceed it thereafter. However although Corporation tax payments reduce PSBR they do not reduce public expenditure. Capital expenditure

7. All the above figures for the proceeds from price rises allow for £407m of additional capital expenditure by BGC. It might be feasible to phase two (lump sum) payments totalling £190m, for offshore gas storage facilities, over five years. On this basis the following

DRAFT STATEMENT

1. With permission, Mr Speaker, I should like to make a statement on the Government's policy on gas prices and the financial target for the British Gas Corporation.
2. The Government have carried out a very thorough review of gas pricing policy, as a preliminary to setting the British Gas Corporation a medium-term financial target. Members may be aware that in the wake of the oil price increases and supply uncertainties earlier in the year, there has been an unprecedented upsurge in the demand for gas which the Corporation have been hard pressed to meet. They have therefore had to take measures to restrain the growth in demand, mainly by declining to supply new customers for the time being, and have made plans for bringing forward investment in their transmission and storage system.
3. Pricing policy must, however, play a central role in matching supply and demand in the market for gas, as indeed for other energy markets. In the industrial and commercial sectors, it has been the long-standing policy of the Corporation to sell gas at a price broadly related to that of the competing oil product. The Government endorses this policy as the best means by which demand can be matched to the current available supply and the capacity of transmission, distribution and storage facilities.
4. In the domestic heating sector, all analyses show that domestic gas is substantially underpriced. Prices are now lower than those paid by industry for bulk supplies and members will recall that even the Price Commission, in their report last July, concluded that domestic tariffs were 30-35% too low.
5. Underpricing has a number of harmful consequences: scarce gas supplies tend to be diverted to the domestic consumer from industry who would be willing to pay the proper price; the incentive to conserve energy is weakened; and the gas transmission system comes under strain, with the danger that supplies may have to be reduced on the coldest days in the coming winters.
6. The Government have therefore concluded that domestic tariffs should increase in real terms in the future, starting next April. The British Gas Corporation have accordingly been set a financial target for the years 1980/81 to 1982/83 of $\left[\quad \right]$ % return on assets valued at current cost $\left[\quad \right]$ taking one year with another $\left[\quad \right]$. If, however, present assumptions, for instance on future oil prices, were to change significantly, the target would need to be revised appropriately. The details of the tariff changes are matters for the Corporation though the financial target set them is likely to result in an average increase of 10% per annum over and above the rate of inflation during the next three years.
7. The Government recognise that this would be a very substantial increase, particularly given that domestic gas prices have been steadily falling in real terms over the past 10 years. The profits

of the British Gas Corporation will also rise substantially. North Sea oil is sold at world prices with benefit to the nation at large and so far we have failed to meet this aim with North Sea Gas and we must achieve it. In practice, British Gas's profits finance their substantial capital investment programme, which the Government has now agreed should be stepped up to meet increased peak demand; an increasing amount will be paid over to the Exchequer as Corporation Tax; and their surplus cash is already being deposited with the National Loans Fund. Thus the Corporation's profits make a direct contribution to reducing public sector borrowing, and to the financial health of the economy. In this way the community as a whole benefits, not just the gas consumer.

8. Price rises are not popular, but neither are restrictions on supplies. It must also be remembered that 30% of households in Britain do not benefit from access to gas, nor do large parts of industry. We must beware of arbitrary discrimination between different fuel consumers, depending on their fortune in being located near to a gas main.

9. The Government recognise that price rises are most difficult for poorer people and here the annual adjustments of pensions and other benefits will automatically take account of increased gas prices. My Rt Hon Friend, the Secretary of State for Social Services, announced on 22 October measures to provide additional help with fuel costs for the coming winter. Thereafter, the Government will be keeping the position under review.

GAS PRICING POLICY AND FINANCIAL TARGETS

Note by the Department of Energy

INTRODUCTION

1. The last Government set the British Gas Corporation (BGC) a financial target of 6½% on turnover for the current year (pre-tax, post interest). To comply with this target the Corporation sought to raise its tariffs by an average of 8½% from 1 April but this was postponed - to 1 June in the case of the domestic tariff - owing to the intervention of the Price Commission.
2. The cash limit consistent with this target was superseded by a reduced cash limit announced as part of the June Budget, which effectively means that BGC has to raise more money from its own resources. This it aims to do by a further increase of 20% in the non-domestic tariff and in firm contract prices from 1 September which, together with internal savings and additional revenue from increased sales, are estimated to increase the return to about 12% on turnover (though no formal change to the 6½% target has been made).
3. British Gas now wish to be set a financial target that will operate for three to five years, following prior consultation with them by Government. Their approach is in accord with the intention to set the nationalised industries medium-term financial targets (E(79)16). Before a target can be set for BGC, however, Ministers will have to reach a view on pricing policy, particularly for the domestic consumer. This note discusses the issues involved.

GAS TARIFFS AND CONTRACTS

4. Gas is sold in two ways. Customers consuming less than 100,000 therms a year buy it on a tariff whereas firms using larger quantities negotiate individual contracts with British Gas.
5. There are two main tariffs:
- i) The domestic credit tariff comprises a standing charge, a higher rate per therm for the first 52 therms per quarter, and a lower run-on rate per therm thereafter (currently 16.5 pence a therm (p/th). The standing charge and the initial rate may vary between Regions though the run-on rate is standard. There is also another domestic tariff - the prepayment tariff for customers using coin meters;
 - ii) the non-domestic tariff comprises a standing charge together with a single consumption rate (increased to 24.0 p/th on 1 September).

Some 60% of total sales are on tariff; 49% domestic and 11% non-domestic.

6. There are two main forms of contract:

- i) "firm contracts" (23% of total gas demand) supply agreed quantities of gas to customers who are willing to pay for a guaranteed supply at a premium price;
- ii) "interruptible contracts" (17% of total demand) provide gas at a cheaper rate but allow for the interruption to the supply for a specified number of days each year.

7. The ability to cut off interruptible contract customers in severe weather constitutes an important means by which BGC can meet maximum demand from the tariff and firm contract sectors. Users of interruptible gas need to provide themselves with a standby source of fuel - generally heavy fuel oil.

8. It is the policy of British Gas, endorsed by government, to sell gas into the contract market at a price related to that of the competing oil product. Customers for firm gas will generally be those who regard gas oil as the competing fuel for their particular circumstances. Such contracts have recently been renewed at around 24 p/th, reflecting the buoyant oil market. Customers burning interruptible gas will generally be replacing heavy fuel oil. Such contracts are currently being renewed at about 20 p/th. Contracts are generally renewed at a fixed price for a 12 month period.

GAS PRICE RELATIVITIES

9. Within the industrial/commercial sector the average price per therm decreases in the order: non-domestic tariff, firm contract, interruptible contract. This order is consistent with the customer's expectation that (a) the larger the volume taken, the lower should be the unit cost; and that (b) a discount should be given in exchange for the disadvantage of interruption. It is also broadly consistent with the relative costs incurred by BGC in supplying these markets.

10. Maintaining these broad price relativities means that British Gas should keep the non-domestic tariff rate at least marginally higher than the firm contract rate. This is important to discourage contract customers from switching to the tariff. If this was allowed to occur on any scale BGC would find their ability to match supply to demand significantly curtailed. They would no longer have control of demand through an annual renewal of contracts for specified quantities if customers were able at little or no financial penalty to take their supply on the uncontrolled tariff.

11. The cost of providing gas to the domestic sector is greater than that incurred in supplying industrial or commercial users yet the average price per therm on the domestic credit tariff is less than that on the non-domestic tariff. This gap is at present about 4p/therm or 20%.

In these circumstances the Corporation are concerned that they could be in breach of their statutory obligation to avoid undue preference or discrimination between classes of tariff customers. As a result the non-domestic tariff has been held down to a level below that which would be justified

in comparison with oil prices, which in turn has set a ceiling on contract prices (para 10).

12. This gap between the domestic tariff, on the one hand, and the non-domestic tariff and contract prices on the other, has opened up because the latter have been allowed to move - albeit with some lag - in line with oil prices, whereas the former has in practice been restrained by considerations of counter-inflation policy and social policy. (In fact, domestic gas prices have fallen in real terms over recent years as well as in comparison with other fuels, with a natural tendency for consumers to switch to gas). The position will tend to be exacerbated when, as now, oil prices are buoyant, since rising (oil-related) prices in the non-domestic markets will enable British Gas to achieve whatever overall financial target they may have been set with a decreasing contribution to profits from the domestic sector. Thus, if the Corporation were set a fixed target return for a number of years, and if oil prices were rising over the period, domestic prices would fall in real terms (and could even fall in money terms) if BGC were not inclined or were not allowed to exceed that target. An alternative therefore would be to formulate the target in such a way as to adjust for any substantial rise in oil prices.

13. A falling real price for domestic gas would give rise to a number of difficulties which are discussed in later sections. For the moment the important point is that it is not sufficient to regard the gas industry narrowly when considering policy on prices or financial targets. The issues must be looked at against the broad backcloth of energy policy generally, taking full account of gas depletion policy.

PRICING PRINCIPLES

14. The economic principle governing energy pricing is that prices should give both consumers and producers proper signals about the longer term costs of supply; and since the object is to guide consumption and investment decisions, the relevant cost is the

marginal cost (specifically, the long run marginal cost - LRMC) rather than current average costs. By setting prices equal to marginal costs, customers are presented with the real economic costs of their consumption and investment decisions, and given rational behaviour, resources will be most efficiently allocated. In the case of a finite resource such as gas it is also necessary to take into account the fact that the use of an extra therm now has a real cost in that it brings forward the day when we have to pay the higher cost of gas from elsewhere, or of an alternative fuel, when our North Sea reserves run out. Thus a sound conceptual approach to gas pricing should be based on considerations of optimal depletion rates.

15. Gas demand in the industrial and commercial markets is relatively sensitive to the prices of the oil products which are the main alternative fuels for the purposes for which gas is used. To match the demand for gas to the available supplies in the short run therefore means that prices must be pitched close to those of oil; in the longer run, gas can move in and out of these markets, according to availability, without needing to move the gas price far from the oil equivalent price. Allowing prices to fall relative to oil would lose BGC revenue unnecessarily and would lead to increased demand which could only be met by some form of rationing in the short term, given the current pressure on gas supplies, and more rapid and uneconomic depletion in the longer term. Economic pricing therefore argues for prices close to competing oil prices in the industrial and commercial markets which is in line with current BGC policy.

16. The major policy issue is the appropriate level for the domestic tariff. The essential questions in the present circumstances are:

- i) how far is domestic gas currently underpriced?
- ii) how rapidly should that under-pricing be corrected?

These questions are examined in the following paragraphs.

17. One - formally correct-approach to answering the first question is to construct a model of the industry and its markets and use this to calculate the prices for gas that will correspond to an optimal depletion profile in the sense of maximising the benefit to our national income over time from North Sea supplies. This takes into account the full flow of future costs and revenues, including the need eventually to replace natural gas with other fuels, but inevitably depends on heroic assumptions about total gas reserves on the UKCS and elsewhere, and difficult judgements about the long term future.

18. There are two other approaches to marginal cost pricing which are conceptually simpler and less open to challenge in terms of assumptions. They are (i) looking at the incremental accounting cost of buying offshore gas plus the cost of selling it in the domestic market; and (ii) taking the industrial price as generally appropriate and looking at the extra cost of selling to domestic customers. The three approaches and the conclusions are outlined below.

Optimal Depletion Approach

19. To take all the relevant factors into account requires making a large number of assumptions about the workings of the gas industry over the next twenty years or so including the size and cost of developing new gas reserves, the appropriate discount rate and the long term cost of other fuels (particularly oil and nuclear electricity). The Department of Energy's computer model works out the full consequences on given combinations of assumptions. The model optimises the disposal of the specified resources of gas between the various markets, both in any one year and also over the whole period of availability, so as to maximise the overall national benefits. Estimates of marginal costs are produced which correspond to the price at which the optimal level of sales are cleared in the various markets. On the central set of assumptions this approach suggests that the optimal level for the domestic tariff should yield on average 30 p/th at current prices which is about 50% above the

current level. This price would be maintained in real terms through the early 1980s but would rise thereafter, possibly quite steeply in the 1990s, with the introduction of substitute natural gas and in the absence of large additional gas finds in the meantime.

Incremental Accounting Cost

20. This approach avoids speculating about future trends in oil prices and the cost of replacement fuel when gas runs out by looking only at the shorter term costs of getting extra gas supplies. Because BGC is a privileged purchaser of UK Continental Shelf gas, the average price paid for new supplies is not necessarily a good guide to a competitive arms-length price or marginal accounting cost. However the price BGC are paying for Norwegian Frigg gas - 14 p/therm allowing for recent movements - was determined in competition with Continental buyers and is therefore as close as we can get to a market price.

21. On this basis the current economic price for domestic sales would be 24½p per therm (14p for gas purchase plus 10½p for distribution and other costs). This compares with the current average revenue per therm from domestic tariffs of just under 20p/therm and points to a current level of under-pricing of about 25%. But because this approach disregards longer term oil price trends, it will tend to under-estimate the degree of underpricing. (Thus on this approach, firm contract prices would be 20-21p/th which is well below current market prices).

Relative Costs in Different Markets

22. A third approach is the idea that prices are too low in a market if profits can be increased by switching sales to another market. The alternative market for domestic gas is gas sold in the firm industrial market for about 24p/therm, to which should be added the extra distribution and transmission cost of about 4p incurred in selling to the domestic market. (Arguably, a higher price than 24p should be used since this rate is in practice constrained by the current level of the non-domestic tariff - see

paras 10 and 11). This approach gives a minimum figure of around 28p/therm as a target price for domestic tariffs (40% underpricing).

Price Commission Report

23. In their recent report on gas prices the Price Commission endorsed the long run marginal cost approach. Their estimate, based on the cost of Norwegian Frigg gas, was that domestic gas was underpriced by 6 - 7p/therm (i.e. 30-35%).

BGC's Views

24. British Gas accept that domestic gas prices should increase in real terms though they stress that it is difficult properly to quantify long-run costs in practice and they would not accept looking beyond the foreseeable future as a proper basis for long-run marginal cost pricing. They point out that there is a 20% gap in average revenue per therm between the domestic and non domestic tariffs and suggest that it would be reasonable to aim to halve the gap in three years by increasing the former by about 3% p.a. in real terms, on the assumption that oil and non-domestic prices will stay about constant in real terms. As a first step, BGC would wish for an increase of 7% in real terms (20% in money terms) next April.

Conclusion

25. There are clearly many uncertainties but all three main approaches mentioned above indicate that domestic gas is underpriced by at least 25% in real terms, and on some assumptions it could be as high as 50%. A substantial price increase is therefore needed for a proper use of national resources.

OPTIONS FOR DOMESTIC GAS PRICING

26. It is impracticable to think of correcting underpricing of 25% to 50% in one go. Domestic consumers are, to a substantial extent, "locked in" to a particular pattern of fuel consumption by virtue of past investment and collectively cannot respond quickly to changing price relativity signals. The sensible approach for domestic gas

prices is to plan for a steady increase in real terms over a period of years.

27. A number of options can be considered with the aim of correcting the current underpricing of domestic gas in real terms, taking only the minimum underpricing of 25% as an example:

- (i) prices increase by an average of around 3% a year in real terms. This would halve the current gap in average revenue per therm between domestic and non-domestic tariffs by 1982/83 as BGC suggest, but would still leave domestic gas at the very least 15% underpriced;
- (ii) prices increase by 5% a year in real terms. This would mean that the underpricing would take at least 5 years to eliminate;
- (iii) prices increase by 7.1% a year in real terms, eliminating underpricing in not less than 3 years;
- (iv) prices increase by 10% a year in real terms, which would bring prices to economic levels in 2-3 years ;

Even higher annual rates of increase would correct underpricing faster still and would be especially relevant if a figure higher than the minimum of 25% underpricing were taken as the target.

28. The actual price increases in any particular year would need to take into account the rate of inflation in the previous year as well as the increases mentioned above. Some implications of raising domestic prices or otherwise are set out in the following paragraphs.

Financial Implications

29. Profits Annex 1 shows the order of magnitude of the profits (excluding interest) that might be generated for the various domestic pricing options. Although these figures are accepted by British Gas, there is considerable uncertainty in such forecasts, particularly because of their sensitivity to oil price movements and the rate of inflation. However, on quite modest assumptions about real price rises, BGC's profits could approach £1000m within two or three years (before payment of Corporation Tax).

30. Financial targets. The formal means by which the Government would convey its decisions on gas pricing to BGC would be by setting a financial target for, say, the next three years. Three years would, in fact, be a sensible period in the first instance, given the uncertainties of oil prices in particular and their impact on gas demand and prices. The target could be by way of a percentage return (pre-tax) on assets as shown by the figures in brackets in Annex 1. The precise form and magnitude of the target would need further consideration, in consultation with British Gas.

31. Public Expenditure. In the context of this year's PESC exercise Ministers have provisionally agreed that an increase in domestic gas prices (assumed at 5% p.a. in real terms) would contribute the following additional sums towards financing public expenditure:

	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>
At 1979 Survey Prices £m	260	380	480

A revised assessment shows that sums of this order can in fact be met overall from the 3% p.a. option favoured by BGC and that an average annual increase of 5% would bring in a further £50-£100m in the later years. The recent upsurge in demand for gas has, however, prompted the Corporation to come forward with proposals to increase gas supply. This will require additional capital investment which will need to be considered in the context of further decisions on public expenditure.

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32. Economic rent and the presentation problem of high profits. The high profits that would result from moving towards economic prices reflect the collection of an increasing proportion of the economic rent by BGC. The rent arises because the value of the gas produced in the North Sea is in general greater than the cost of production. As explained in Annex 2, the rent is at present shared between the Corporation and its customers but as prices move towards economic levels more of the rent will accrue to British Gas, at least on the present taxation regime. There are, however, other possibilities. One would be to extract the economic rent from the producers who would pass this on to BGC and its customers in the form of higher prices for gas. Another approach would be to impose a levy on BGC itself. Both methods would serve to reduce the high profits that the Corporation would otherwise generate with the move to economic prices. This could be desirable since high reported profits from a nationalised industry can militate against increasing prices even when the economic case for doing so is sound. Seemingly large profits might also weaken the external pressure on management to improve efficiency and could encourage employees to press for bigger pay rises. This question - where the economic rent should accrue and be extracted - is to be considered in a separate paper by the Treasury.

The Energy Market

33. Gas supply and demand. Recent events in world oil markets have led to such an upsurge in demand for gas that BGC are now seriously concerned about their ability to meet peak winter requirements next year and thereafter. This upsurge occurred not only because gas is perceived to be a more secure source of energy but also because the consumer at large - and especially the domestic consumer - recognizes that gas is cheap. Continued

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underpricing of domestic gas could only exacerbate the difficult demand/supply situation. Conversely, moving domestic prices towards those being paid by industry and commerce will signal the Government's intention to allow price to have its effect on demand, and will lessen the criticism that the domestic sector is claiming more than its fair share of available gas and is paying less than its fair share of the costs.

34. The balance between the fuels. There are good reasons in terms of the energy market and the efficient use of fuels why domestic gas prices should rise. For the 1980s we shall continue to be a 4-fuel economy. In the 1990s the market shares of both oil and natural gas may start to fall and the prospect will be of increasing dependence on coal and nuclear power. Gas costs could be rising quite steeply in the 1990s, reflecting the increasing scarcity of natural gas, which could mean the beginning of a shift back to electricity in domestic markets, especially if electricity costs were becoming more competitive with the build-up of nuclear power.

35. Provisional forecasts of electricity prices made within the Department indicate that these could rise by up to 5% p.a. in real terms over the next few years largely because of rising fossil fuel costs plus an element to correct for current electricity underpricing. If domestic gas prices do not rise by more than this rate then the competitive position of gas will continue to improve with resulting market pressure to deplete natural gas faster, less incentive to efficient fuel use, and sharper problems of adjustment for the electricity and coal industries, and consumers, in the late 1980s. For the gas industry, the introduction of expensive and capital intensive manufacture of substitute natural gas (SNG) from coal or oil would be brought forward. On these grounds alone gas prices should increase at a real rate of at least 5% p.a. over the next few years, in line with electricity prices.

Social Policy

36. RPI effects. The table shows the extra effect on the RPI of gas prices rising in real terms.

<u>Annual real price increase</u>	<u>Extra effect on RPI</u>
3%	0.05%
5%	0.08%
7½%	0.12%
10%	0.16%

37. Effect on the poor. The RPI figures may, however, understate the impact of gas price increases on low income consumers. The poor devote a larger than average proportion of their weekly expenditure to heating and lighting - 11% in the lowest income group (12% for poor pensioners) compared with 6% for the average household. This means that fuel price increases hit them disproportionately hard. In recent years there has been less criticism of gas price increases than other fuel price increases, particularly electricity. This is because real gas prices have fallen over the years as natural gas has been introduced; indeed over the past ten years they have declined by more than 35% in real terms. Over the same period incomes, including old age pensions, have risen in real terms, so that the proportion which would have to be spent on gas, assuming constant levels of consumption, has declined rapidly. For instance, at typical consumption levels, a single old age pensioner would have had to devote 15.7% of his income to gas 10 years ago as compared with only 6.7% today.

38. Increasing domestic gas prices in real terms could therefore legitimately be set against the trend of the last ten years; even a 30% increase would not take the level in real terms above that of a decade ago. However, this argument from past trends will not in itself obviate criticism. Gas prices will of course be taken into account in the normal way in the uprating of pensions and other benefits, but it will be argued that many low incomes households are ill equipped to meet even moderate real price increases and that additional offsetting measures are needed. Such criticism is likely to be further fuelled by BGC's profit figures. (Offsetting

measures, if Ministers considered them necessary, would properly be introduced through the Supplementary Benefit arrangements rather than through a price subsidy).

CONCLUSIONS

39. British Gas have a well established policy of selling gas under contract to the larger industrial and commercial consumers at a price related to that of the competing oil product. This is the soundest approach to supply/demand management available (paras 8 and 14). The firm contract rate should be kept at a level at least slightly below the non-domestic tariff, both on grounds of defensible commercial practice and to ensure that gas on contract is sufficiently attractive on price, thereby enabling British Gas to have adequate control of demand through contracts in relation to available supplies (para 10).

40. The domestic tariff is under-priced by 25-50% according to the analysis presented in this paper. The Price Commission reached a similar conclusion on under-pricing (30% to 35%), and British Gas themselves accept that domestic prices should go up in real terms. There are strong arguments for correcting this underpricing fairly quickly by increases of at least 5% a year on average. Any lower rate of correction would increase the danger that the gap between domestic gas prices and gas prices in industrial markets would continue to widen thereby prolonging underpricing well into the 1980s.

41. Correcting underpricing would by definition lead to a better allocation of national fuel resources and would result in public expenditure savings (para 31), energy policy advantages (para 34 and 35) and the eventual removal of discrimination between the two main gas tariffs (para 11). There would, however, be disadvantages for the RPI (para 36) and poorer consumers (paras 37-38) and the presentational aspects of high profits would require attention (para 32).

GAS PROFITS £m (Out-turn prices)

<u>Real price increases</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>
0% p.a.	550 (7)	650 (8)	700 (7)
3% p.a.	600 (7)	750 (8)	850 (9)
5% p.a.	650 (8)	800 (9)	950 (9)
7½% p.a.	700 (8)	900 (9)	1200 (11)
10 % p.a.	750 (10)	1000 (10)	1300 (12)

The figures do not take into account interest earned on surplus funds deposited with the N.L.F.

Profits are expressed before provision for Corporation Tax.

The figures in parenthesis show the profit before interest as a return on assets valued at current cost.

ECONOMIC RENT FROM NORTH SEA GAS PRODUCTION

1. Economic rent may be defined as the surplus over and above the payments necessary to maintain a factor of production in its present use. Such rent arises in the North Sea and elsewhere when the value of the hydrocarbons produced is greater than the costs of production. Costs of production include an appropriate rate of return on capital - sufficient to encourage the necessary exploration and development.

2. A full analysis of the economic rent arising on N Sea gas would be complex and the results would depend on a number of difficult judgements. It would be necessary to consider in detail the costs of supplying gas, including the development costs of each field, contract prices, taxes and tax allowances; the demand for gas, including the value of each therm of gas supplied in each of the markets; and the producers risks and the appropriate rate of return on his investment.

3. There is a much simpler approach, however, which nevertheless provides a useful approximation to the total economic rent. This is to take the difference between the contract prices paid by BGC to the producers and the market value of the gas at the beach. On this approach the rent accruing to the offshore producers and part of the rent accruing to final consumers is neglected. Although the former is important to the oil companies, it is likely to account for only a fairly small proportion of the total rent arising at present from UKCS gas. The second element - represented by the excess that consumers might in principle be willing pay for gas over and above the economic price - is somewhat theoretical since it could only be captured by adopting a very discriminatory pricing policy.

4. In the main paper, three approaches to determining economic prices in domestic markets are considered: optimal depletion, incremental accounting cost, and relative costs in different markets. Taking the values thus determined, and subtracting the marginal costs of transmission, distribution etc of $10\frac{1}{2}$ p/th, we have for the value at the beach:

	<u>Domestic price p/th</u>	<u>Beach value (p/th)</u>
Optimal depletion	30	19½
Incremental accounting	24½	14
Relative costs	28	17½

5. These beach values are much higher than the present contract prices currently being paid by BGC. The current annual economic rent, estimated as the difference between beach value (14-19½p/th) and contract price, is therefore as follows:

Source of supply	Production (billion therms in 1978)	Contract Price (p/th)	Rent (£m, annual)
S.Basin	13.0	3½	1350 - 2100
UK Frigg	1.0	10½	35 - 90
Brent	-	7½	-
		<u>Total :</u>	<u>1400 - 2200</u>

(In the case of Norwegian Frigg, the rent largely goes to the producers or the Norwegian Government and is not therefore included.) The figures set out above give a broad indication of the position through to the end of 1980. Thereafter the economic rent will decline fairly sharply as the more expensive gas from Brent or other northern fields replaces low cost S.Basin gas.

6. It is difficult to offer more than a broad brush estimate of how the £1½ - 2bn of economic rent is allocated between the Corporation and its customers. In 1978/79 close to half of all gas sold went to domestic customers at an average price of 18.5p/th; 12% went to the commercial market at about 18p/th; and some 38% to industry at an average price somewhat under 12 p/th. To the extent that these prices are below economic prices in the various markets, the customers gain the economic rent. The remainder is retained by British Gas/ and contributes to profit or provision for depreciation. The breakdown might be roughly as follows:

	£bn (1979 prices)
Domestic customers	0.4 - 0.8
Industrial & commercial	0.5 - 1.0
BGC (the remainder)	0.6 - 0.2
Total:	1½ - 2.0

7. The largest allocation of rent has thus been to industrial consumers though the benefit will vary very considerably between companies. Those who have recently signed contracts at close to oil-related prices may receive no rent at all. On the other hand, companies whose contracts have been renewed at prices below the market rate will benefit from the economic rent, and those few companies who still have long-term contracts at cheap prices (particularly ICI) will be benefitting considerably.

8. In general, as prices are increased towards fully economic levels, less of the rent will accrue to customers and more to British Gas.