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Back From The Dead? The Return of Energy Policy

Colin Robinson

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Enquiries:

***Director of SEEC and Editor of SEEDS*:**
David Hawdon *email: d.hawdon@surrey.ac.uk*

SEEC, Economics Dept, School of Human Sciences,
University of Surrey, Guildford GU2 5XH, UK.
Telephone: +44 (0)1483 689171 Fax: +44 (0)1483 689548

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ABSTRACT

Among all the momentous events in the world in 2002, one more parochial happening which is, nonetheless, of considerable significance for energy economists is the revival of energy policy in Britain. This year has seen a flurry of activity on the energy front. In February the Performance and Innovation Unit produced its detailed `Energy Review', following which in May the government published its `Key Issues for Consultation for the White Paper', in advance of a White Paper on energy policy which is promised around the end of 2002. It will be the first such White Paper for thirty five years. In this lecture, I start with a potted history of British energy policy in the post-war period since the lessons which might be learned from earlier efforts at policy are in danger of being neglected. Then I discuss the theory of intervention by government in the energy sector. Finally, I consider the main issues which are emphasised in the new form of energy policy and whether or not they constitute a genuine basis for government action. My view is that, in energy policy as elsewhere, we should beware of attempts to look into the far distant future and, in a vain search for `optimal' solutions, propose interventionist measures to combat supposed market failures, providing another excuse for government encroachment. The intention is entirely well-meaning but the outcome is unlikely to be so benign.

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BACK FROM THE DEAD? THE RETURN OF ENERGY POLICY

Colin Robinson
Professor of Economics, University of Surrey

Lecture at meeting of British Institute of Energy Economics, 28 October 2002.

Among all the momentous events in the world in 2002, one more parochial happening which is, nonetheless, of considerable significance for energy economists is the revival of energy policy in Britain. Energy policy was, of course, once regarded as a subject of some importance with specialist government departments – the Ministry of Fuel and Power, the Ministry of Power and the Department of Energy – to administer it. Then, about twenty years ago, when our chairman this evening, Lord Lawson, was Secretary of State for Energy he effectively killed energy policy as it then existed. I shall say more later in this lecture about what it was that perished and why.

But this year has seen a flurry of activity on the energy front. In February the Performance and Innovation Unit produced its detailed `Energy Review', following which in May the government published its `Key Issues for Consultation for the White Paper', in advance of a White Paper on energy policy which is promised around the end of 2002. It will be the first such White Paper for thirty five years, though there have of course

been numerous lesser pronouncements on energy policy in the meantime[1]. The Department of Trade and Industry (DTI) also published in May a public consultation draft of its strategy for combined heat and power and, in July, 'Energy – its impact on the environment and society – outline of environmental and social impacts of energy'[2]. Unplanned events in 2002 with a bearing on energy policy included the financial problems of British Energy in September, which not only gave the DTI an immediate problem of whether or not to bale out the company but also led to some questioning of the future role of nuclear power, and the possibility of war with Iraq which raised crude oil prices and increased uncertainty about supplies.

Not for many years has energy evidently been so high on the political agenda. According to the energy section of the DTI's website 'Maintaining a forward looking coherent energy policy is a major task for Government'. That statement could have been lifted from any one of the many attempts in the post-war period to define and implement a policy for the energy industries. However, the policy which seems to be returning is not the same as the one that went six feet under in the early

[1] For example, Department of Energy, *Energy Policy Review*, Energy Paper 22, 1977 and a Green Paper, *Energy Policy: A Consultative Document*, Cmnd.7101, 1978. There have also been many reports from the Energy Select Committee and its DTI successor

[2] Details of the various government publications on energy in 2002 can be found in the energy section of the Department of Trade and Industry's website (www.dti.gov.uk/energy)

1980s. It is not so much a resurrection as a reincarnation – that is, the passing of the soul of energy policy into another body. In its reincarnation, energy policy bears some resemblance to what went before but it has been spruced up to reflect contemporary concerns. Its emphasis and its particulars are significantly different from the old policy.

In this lecture, I start with a potted history of British energy policy in the post-war period since the lessons which might be learned from earlier efforts at policy are in danger of being neglected. Then I discuss the theory of intervention by government in the energy sector. Finally, I consider the main issues which are emphasised in the new form of energy policy and whether or not they constitute a genuine basis for government action.

A Potted History

In the early post-war years, energy and coal were regarded as virtually synonymous, as they had been in the days when Jevons was writing about coal in the mid nineteenth century[3]. Both electricity and gas were produced from coal, oil was primarily a transport fuel, there was very little hydro power and no civil nuclear power stations had then been built.

Returning coal production to its pre-war level and then increasing it to permit the economy to grow seemed pressing concerns to contemporary writers and to the first post-war Labour government[4]. By 1952 coal production had returned to its 1938 level of some 230 million tonnes but that proved to be its post-war peak: the downward trend of the interwar years then resumed because of competition from relatively low-priced oil products and later from North Sea natural gas. Before World War Two, production had fallen because of declining exports of coal: after the War, with exports very small, output fell because of declining home consumption of coal.

For the next thirty years, what governments described as `energy policy' was, in practice, a protectionist policy for British coalmining with a subsidiary policy of promoting British-designed nuclear power stations. The wall of protection which surrounded British-mined coal rose higher and higher as governments of both political parties tried to offset the forces which were turning consumers away from British-mined coal. Of course, support for coal was not in a form which explicitly violated world

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[3] W.S.Jevons, *The Coal Question*, 1865, Augustus M.Kelley, New York, 1965

[4] More detailed accounts of the early postwar history of energy policy are in William G.Shepherd, *Economic Performance under Public Ownership – British Fuel and Power*, Yale University Press, 1965; PEP, *A Fuel Policy for Britain*, 1966; Colin Robinson, `Die Energiewirtschaft in Grossbritannien: Entwicklung under Perspektiven, *Weitschrift fur Energi Wirtschaft*, 2/91, 1991, `Energy Trends and the Development of Energy Policy in the United Kingdom', *Surrey Energy Economics Cenre Discussion Paper 61*, 1992 and *A Policy for Fuel?*, Occasional Paper 31, Institute of Economic Affairs, 1969.

trade rules by imposing tariffs and quotas. Governments, both Labour and Conservative, implemented the policy principally by leaning on the nationalised electricity supply industry to burn more British coal than it would freely have chosen, by giving coal preference elsewhere in the public sector, by taxing fuel oil heavily from 1961 onwards, by keeping out imports of coal and Russian crude oil. Periodically, financial assistance was given to the (then) National Coal Board by writing down or writing off the value of its assets. The policy had constantly to be adjusted as circumstances changed in a vain effort to stop new forces cutting away more of the coal market. For example, when natural gas was found in the North Sea, it was made quite plain to the oil companies which had made the discoveries and to the (then) Central Electricity Generating Board (CEGB) that there was no question of gas being used in power stations.

Despite increasing protection, British coalmining fell sharply, from 198 million tonnes in 1960 to 130 million tonnes in 1980, as relatively low-priced oil penetrated markets previously held by coal. Fuel oil sales in particular grew rapidly, displacing coal in industrial and commercial markets. Even the two oil 'shocks' of the 1970s failed to promote revival, though for a time the rate of decline slowed. Nevertheless, governments –

which were being pressed by the National Union of Mineworkers to establish a target annual output of 200 million tonnes – in their public statements remained determinedly optimistic about coal's future. Particularly unfortunate examples of this tendency came in two documents published in the mid-1970s which anticipated an expansion of Britain's coal output to 135 million tonnes in 1985 and 170 million tonnes in 2000[5].

The nationalised electricity supply industry was also used as the instrument for favouring civil nuclear power, beginning in 1955 with the First Nuclear Power Programme (Magnox), followed in 1965 by the Second Nuclear Power Programme (Advanced Gas Cooled Reactors) and then by the lone Pressurised Water Reactor at Sizewell. Up to the late 1980s Britain also had plans to construct commercial fast reactors at some time in the future. By the early 1960s, some people in the CEGB were beginning to doubt the wisdom of these ventures into nuclear power based on British-designed reactors. But the electricity supply industry did not resist too strenuously because it was, in effect, compensated by taxpayers and electricity consumers for its support both for British-mined

[5] National Coal Board, *Plan for Coal*, 1974 and Department of Energy, *Coal for the Future*, 1977. Criticisms of these forecasts are in Colin Robinson and Eileen Marshall, *What Future for British Coal?*, Hobart Paper 89, Institute of Economic Affairs, 1981.

coal and for British-designed nuclear stations. Britain`s nuclear power industry was conjured into existence and then maintained by the state[6].

A number of official documents have a bearing on government intervention in the energy industries in those years. Because three of the industries (coal, gas and electricity) were nationalised, the three White Papers on the nationalised industries of 1961, 1967 and 1978 are themselves relevant[7]. They were all attempts to ease the tensions that were building up between the Boards of the nationalised corporations and governments. They set financial and other targets for the nationalised corporations and, in the case of the 1967 document – sometimes described as the `welfare economists` charter' – advocated marginal cost pricing and improved investment appraisal methods. However, there was not much sign that these documents had any influence on the behaviour of the corporations and, in any case, governments seemed to lose interest in them after publication[8]. More directly relevant were two White Papers on Energy Policy, issued only two years apart in 1965 and 1967[9].

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[6] Colin Robinson, *The Power of the State: Economic Questions over Nuclear Generation*, Adam Smith Institute, 1991.
[7] *The Nationalised Industries*, Cmnd.1337, 1961, Cmnd.3437, 1967, Cmnd.7131, 1978
[8] David Heald, `The Economic and Financial Control of the Nationalised Industries, *Economic Journal*, 90, June 1980
[9] *Fuel Policy*, Cmnd. 2798, HMSO, October 1965 and *Fuel Policy*, Cmnd. 3438, HMSO, November 1967. The two papers are described and criticised in Robinson, *A Policy for Fuel?*, op cit.

I argued at the time[10] that these White Papers were no more than *ex post* rationalisations of numerous *ad hoc* interventionist measures taken as short term responses to perceived problems by a succession of past governments. The White Papers described and attempted to justify after the event as a 'policy' what had actually been a 'haphazard process of piling measure on measure'. Moreover, there had been unintended consequences. Measures presumably intended mainly to protect coal had resulted in a protected fuel market, so that all energy suppliers in Britain were helped – and energy consumers were disadvantaged - by the high level of fuel prices. Subsequent events did not change my views as governments of both parties increased coal protection and continued to favour nuclear power up to the early 1980s.

It was not until the arrival of Nigel Lawson at the then Department of Energy in 1981 that a new attitude towards energy policy appeared. He realised right away that the planning mentality in the Department was inconsistent with the philosophy of the Thatcher government. 'Predict-and-provide' was the prevailing view in the Department: project the demand for energy many years into the future, then project the supply of various forms of energy, then start to worry about the 'gap' between demand and supply which such exercises in 'gapology' invariably show.

[10] Robinson, *A Policy for Fuel*, op cit

These gaps are spurious – they merely reflect human short-sightedness. People can see problems which might arise if present trends are extrapolated but, by definition, they cannot see the yet-to-appear solutions which human ingenuity will most likely provide. But the Department of Energy took these supposed gaps very seriously, using them as an excuse to justify policy measures which, it claimed, would fill the gap. Nigel Lawson saw no value in these blueprints for the future and stopped the Department working on them. Instead of an energy policy, he argued, the way forward was to price fuel realistically[11].

The Conservative government did not immediately give up coal protection and it continued to support nuclear power for a few more years. But for the next fifteen years or so, energy policy in the sense in which it had been understood in the earlier post-war period seemed to be dead, despite many momentous events in the British energy market. The year-long coal strike of 1984-85 was the most dramatic: the industry was never again the powerful pressure group it had been in earlier post-war years. Then there was energy privatisation. I am not a great fan of the way the energy industries were privatised, which left too much market power with incumbents, but privatisation eventually opened the way for energy market liberalisation. In 1985, gas was privatised, followed by

[11] Nigel Lawson, *The View from Number 11*, Bantam Press, 1992, especially Chapter 15.

electricity (except for nuclear power) in 1989 and coal in 1994 after many years of attrition during which it waited for the privatisation scheme to be announced. Soon afterwards (1996) nuclear power, except for the Magnox stations, also went into the private sector.

The Lawson aim of moving towards realistic pricing seemed on the road to achievement through privatisation. (Indeed, fast-forwarding briefly, through the actions of successive energy regulators, Britain in 2002 has well-functioning wholesale and retail markets in both electricity and gas – an outcome which would have seemed inconceivable to most twenty years ago). Moreover, with almost all the energy sector in private hands, the old form of energy policy – operated through the back door by Ministers and civil servants making known to the bosses of the nationalised industries what government wanted them to do - had become impossible to continue. Under nationalisation, the electricity supply industry had been more an instrument of industrial and energy policy, supporting coal, nuclear power and the British heavy electrical industry, than a commercial operation. That kind of organisation could not survive privatisation.

However, that does not mean that government intervention in the energy industries has ceased. After many years in which the role of market forces

in energy was emphasised, it has in recent times been possible to spot some continuities with the earlier post-war period. The beginnings of the change can be traced back to the early period of the 1997-2001 New Labour government when it decided on an old-fashioned ` rescue' of the then recently-privatised coal industry after threats of pit closures[12]. Coal has continued to be supported. Even more significant was the aid the government offered that other now-privatised favourite of the policy-makers of old – nuclear power - when in the autumn of 2002 British Energy found itself in severe financial difficulties. Indeed, the rescue of British Energy suggests that Harold MacMillan's 'events' still dominate policy towards the energy industries, whatever plans governments may have. The events still come first and whatever short-term solutions are applied to them are later dignified by the title of 'policy'. Nevertheless, another effort to write down a policy in advance of events is now taking place. I will describe the new policy more fully later but first I want to discuss a topic which supporters of energy policy seldom bring into the open – the theory of energy policy.

[12] Colin Robinson, `After the Regulatory Review', in *Regulating Utilities: A New Era*, (ed), M.E.Beesley, Readings 49, Institute of Economic Affairs, 1999.

The Theory of Energy Policy

I argued earlier that government energy 'policy' in the earlier post-war years was a long way from the considered, long term strategy which supporters of energy policy would presumably like to see. It was just a collection of short term interventionist measures which were subsequently written down and collectively described as 'policy' in government documents. Its consequences were both unintended and perverse. Presumably, none of the *ex ante* supporters of an energy policy would have been happy with its outcomes: in particular, higher prices for consumers and an electricity supply industry which, as I shall explain, was primarily an arm of government industrial policy, had undiversified fuel supplies and therefore suffered from insecurity of supply and produced more pollution than if the market had been permitted to work. This tendency to adhockery in policy-making has re-emerged in the last few years. An important question is whether it is inherent in energy 'policy' or whether a wise and considered long term government strategy for the energy sector is feasible and desirable.

The neo-classical view and its flaws

The idea that an energy policy is desirable rests essentially on the mainstream neo-classical economic view that markets are `imperfect' and `fail'. [13] Government can be brought in, as *deus ex machina*, to improve on what would have been the market outcome. But there are many flaws in that view which I will list briefly.

First, staying within the confines of neoclassical economics, attempting to move the outcome of one market closer to the outcome of a perfectly competitive market inevitably comes up against the second best problem pointed out by Lipsey and Lancaster nearly forty years ago[14]. There is no reason to believe that such a move, while other markets remain imperfectly competitive (piecemeal welfare economics), will have beneficial effects. This is a very inconvenient result for mainstream micro economists because it means there can be little faith in most of their policy prescriptions. The response of the majority of them is to carry on regardless, acknowledging but then ignoring the second best problem.

[13] The PIU's `Energy Review', Chapter 3, suggests that equity issues and `strategic and political' considerations may also justify an energy policy. Equity matters, however, are not well addressed by a policy directed at one sector of the economy and `strategic and political' issues are too vague a basis for policy.

[14] R.G.Lipsey and K.Lancaster, `The General Theory of Second Best', *The Review of Economic Studies*, 24(1), 1956

Second, moving outside mainstream economics but nevertheless to well-established theoretical conclusions, there is the public choice problem. After all the work of James Buchanan, Gordon Tullock and their followers it is hard to understand why economists interested in policy take so little account of the presence of government failure. If people in the government sector have similar motivations to those in the private sector, why should anyone believe that government servants are pursuing the 'public interest'? Such an interest is anyway difficult to define and identify and, unless Ministers and civil servants are different beings from the rest of us, concerned only with the interests of others, why should they be assumed to be pursuing it? Of course, if there is government failure the case for bringing in government to set right the failures of the market is severely dented. Indeed, it can be argued that, in general, government failure is the worse problem. The pursuit of self-interest in a competitive market is likely to lead to beneficial results in terms of welfare. But governments are not in competitive markets. They have monopolies of policy between elections and so government policy essentially represents the pursuit of self-interest in a monopolised market.

Third, and even more fundamentally, it is worth giving some thought to what is meant by 'imperfections' and 'failures' in markets. What

mainstream economists mean are that conditions in the relevant market will not produce an outcome like the long run equilibrium of perfect competition with price equal to long run marginal and `normal' profits. But that is a rather odd view of what constitutes an `imperfection' or `failure' since that equilibrium is not on offer as a possible state of the world, if for no other reason than that it assumes perfect knowledge – or, more precisely, it implies perfect knowledge of the future (as all decisions are about the future) which, all experience indicates, cannot exist. In effect, therefore, mainstream economics sets up as an ideal a state which cannot be realised, then treats as `imperfections' and ``failures', departures from that state. All markets, when examined against such a criterion, are bound to be `imperfect' and `failing' so intervention by government will appear to be justified everywhere. Putting the matter another way, to justify government intervention by reference to supposed imperfections and failures is to indulge in what Harold Demsetz has aptly described as `Nirvana economics'[15]. Instead, Demsetz argues, practical policy-making should be about choosing among feasible states of the world.

Fourth, an allied question concerns what governments (including government-appointed regulators) can know. Is it possible for

[15] H.Demsetz, `Information and Efficiency: Another Viewpoint', *Journal of Law and Economics*,

governments to work out what the outcome of a competitive market would be and to go straight to it, bypassing the messy process of people competing against each other? For instance, a government could impose marginal cost pricing and perhaps simulate the costs and standards that would have appeared in a competitive market. If you take the view, as I would, that markets are the prime means by which knowledge is generated and spread, such government action is simply not possible. The outcome of a competitive market arises only through the competitive process: without that process, the knowledge required to achieve the outcome is not produced. So you cannot have the outcome without going through the process. As Hayek pointed out[16], knowledge is essentially decentralised, and cannot be gathered together at a central point, such as a Whitehall department or a regulator's office. An inherent problem outside competitive markets is therefore not so much information asymmetry as information shortage. Governments and regulators do not know what market outcomes would be and so, in general, they cannot simulate such outcomes. The main anchor which neo-classical economics provides for government intervention is therefore missing.

12(1), 1969 and *Efficiency, Competition and Policy*, Blackwell, 1989

[16] F.A.Hayek, 'The Meaning of Competition', in *Individualism and Economic Order*, Routledge, 1948. See also Israel Kirzner, *Discovery and the Capitalist Process*, University of Chgicago Press, 1985.

In my view, the difficulties I have outlined mean there are massive problems in the way of an energy policy that will be an improvement on the outcome of functioning competitive energy markets. A view commonly expressed is that markets should be allowed to work, for efficiency reasons, but that they should be constrained by government regulation designed to take into account the failings of markets. That is all very well but, in practice, how can governments, lacking any anchor, identify what those constraints should be?

The importance of interest group pressures

Governments, lacking the necessary expertise and short of information, are highly susceptible to the attentions of pressure groups which move into the vacuum left by the lack of information in politicised markets. As the public choice theorists have pointed out, the actions of interest groups are extremely important influences on government policies which tend to be biased in favour of the organised and to neglect the interests of unorganised small consumers. So rent-seeking behaviour is prevalent.

The economic analysis of this type of rent-seeking behaviour is straightforward. When it is known that government may intervene - as, for instance, when a `crisis' affects one or more energy industries or

when government announces a review of energy policy - interest groups have a powerful incentive to lobby. Any gains they achieve will be concentrated on their members; the costs will be thinly spread over the population at large. So lobbying is potentially a high return activity for the pressure groups, whereas the general populace has little incentive to resist even outcomes which are very damaging to the community as a whole because each individual bears only a small part of the cost. Politicians go along with the pressure groups because they have an incentive to treat people unequally – placing most weight on the views of those who appear able to deliver large numbers of votes and little on the views of the unorganised.

On this view, energy policy is not so much a means by which wise, benevolent and altruistic public servants act for the benefit of the community as a whole: it is a means by which minorities force their views on the rest of the populace via the only organisation which has the power to coerce – the government. In the old days of energy policy, the powerful pressure groups which determined policy were British Coal (and its predecessor, the National Coal Board), the National Union of Mineworkers and the very effective scientific lobby which pushed British governments into their ventures in civil nuclear power. The pressure groups had particular power in times of evident 'crisis' when quick

government decisions seemed to be required. Recent events at British Energy might suggest that not much has changed. As I have argued elsewhere, the beneficiaries of British energy policy, old-style, were producers not consumers. Policy was not conceived after `disinterested analysis of the options' but was a product 'of short-termism, aimed at gaining political advantage'.[17]

Energy Policy, New-Style

Policy: planned and unplanned

In discussing new style energy policy, I am talking about published documents by government advisers. In practice, policy will probably, as in the past, be determined more by unplanned events and reactions to them than by all this forethought. However, the forethought is worth considering as indicative of the way prevailing opinion is moving.

As the White Paper is yet to appear, the best clues about the reincarnated energy policy presumably come from the PIU`s *Energy Review.* Part of the unwritten terms of reference of such government review documents is that they should produce proposals for more government action.

[17] Robinson, *Energy Policy: Errors,Illusions and Market Realities*, Occasional Paper 90, Institute

Statements that most problems now foreseen will be solved through the application of human ingenuity, operating through markets, are not what the sponsors of the report expect or welcome. Consequently there tends to be a bias towards interventionist solutions. Recognising this, how should one regard the PIU's advice?

An emphasis on markets: but qualified

To begin on a positive note, one obvious change compared with earlier statements of energy policy is the emphasis on competitive markets which reflects the much altered economic and political agenda. To quote the PIU report's Executive Summary (third para),

'The introduction of liberalised and competitive energy markets in the UK has been a success, and this should provide a cornerstone of future policy.'

Throughout its report, the PIU seems impressed by the advantages of using markets. Moreover, unlike previous statements of energy policy, it

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of Economic Affairs, 1993, page 48

recognises the possibility of government failure so that `...intervention may sometimes make matters worse' (para 3.1). These seem to me important developments in the attitudes of energy policy advisers which reflect the changed climate of opinion about economic policy-making as a new `semi-consensus' has developed[18]. However, experience teaches that we should look beyond the words written down in government documents[19], which (partly because of the influence of `events' which I have already stressed) are not necessarily a good guide to what governments will actually do. In this case, the PIU document is ambiguous. For all the stress on the benefits of markets, when it comes to considering possible policy measures, the PIU seems over-impressed with the market failure case for intervention and at crucial points loses sight of the flaws in that case.

On another positive note, considering more specific issues, it appears that some of the matters which were prominent in earlier energy policy statement s – notably supposed balance of payments problems, fears of sharply rising fossil fuel prices in the long term future and worries about oil supply interruptions – are, quite rightly, no longer of much concern. A particularly welcome feature is the absence of the crude expressions of

[18] David Henderson, *The Changing Fortunes of Economic Liberalism*, Occasional Paper 105, Institute of Economic Affairs, 1998, revised edition 2001
[19] Robinson, `After the Regulatory Review', op cit

concern about the insecurity of imported fuels versus indigenous supplies which used to be so prominent in energy policy statements. The PIU (and the DTI in its *Key Issues* paper) concentrate on two more substantive issues – one is the environmental problems which they believe relate to the energy sector and the other is security of energy supply (which is rather confused in the PIU report with the logically distinct issue of long term energy price risk).

Of the two, by far the greater space is occupied by discussion of environmental issues. Indeed, the PIU goes so far as to suggest a new objective for energy policy. The DTI's *Key Issues* paper (para 2.1) quotes, with implicit approval, the PIU proposal (page 52 of its report) that the DTI's energy objective should be redefined as

> `the pursuit of secure and competitively priced means of meeting our energy needs, subject to the achievement of an environmentally sustainable energy system.'

Institutional change is also suggested. The PIU would like the government to establish a `new cross-cutting Sustainable Energy Policy Unit to draw together all dimensions of energy policy in the UK' (point

(x) in the Executive Summary). Responsibility within government for climate change policy, energy policy and transport policy should in the long run be brought together in one department. The PIU would like government intervention in energy markets to use the `guiding principle' of `sustainable development'. I now consider the security and environmental cases for government intervention as set out by the PIU.

Security of Supply

Although the authors of the PIU report believe sustainable development objectives should predominate in energy policy making (para 4.1), according to them, energy security is a `cross-cutting' objective where government has a role. After a long discussion of security they conclude (para.4.111) that there is no pressing need for government action on security but it should `closely monitor' security risks in future and intervene if necessary. However, the case the PIU makes for government action to improve energy security is unconvincing, because it does not examine the theoretical case properly, because as in other parts of the report it neglects its own arguments about government failure and because it is silent about the results of past government efforts to promote security.

British governments claimed, in justifications of energy policy in earlier post-war years, that providing security of energy supply is a legitimate function of government. Economists give them some ammunition to reinforce this claim. Security of supply is a quasi-public good. If I supply it, I cannot appropriate all the benefits so I and everyone else will under-invest in it. Thus markets will not supply the optimum quantity of security and governments should step in. The theoretical argument about public goods is correct, and appealing to Nirvana economists, but from a policy viewpoint it is irrelevant because optimum security is not on offer. No one has the knowledge to define what optimum security would be, let alone provide it. So the question becomes whether markets or government are likely to supply an appropriate degree of security of energy supply?[20]

Markets will take into account security in the sense that both consumers and producers, when selling and purchasing energy products, realise that security is an important feature of such a product and it will therefore be one of the characteristics of traded energy products which is bought and sold, thus entering into price signals. It is theoretically possible that governments could provide a net addition to market-provided security (for instance, by holding excess stocks of some fuels, or excess electricity

[20] Further discussion is in Colin Robinson, 'Depletion Control in Theory and Practice', *Zeitschrift*

generating capacity or giving incentives to private companies to invest in generating capacity). But it is also quite possible that government action will crowd out private security provision that would otherwise have been made.

Detracting from private security provision is another possibility, as government interferes in market processes. For example, if energy suppliers and consumers believe that governments will not allow prices to ration demand in the event of a supply interruption, market incentives to supply security will be blunted: potential suppliers of security will not make the investments they would have made had they expected profits to be higher. In that case, it is government failure not market failure, which is the problem. We should also bear in mind that, as in other matters, government action on security is likely to be influenced by interest groups.

In Britain, governments have in the past claimed to be trying to improve security but their record has been extremely poor. During the days of coal protection, it was argued that British coalmining was being supported to improve security of supply – in particular, to avoid dependence on unreliable foreigners. But, by supporting British coal, governments

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fur Energie Wirtschaft, 1/86, 1986

enhanced its monopoly power. An interruption to coal supplies would be costly in itself but it might also interrupt electricity supplies (since government policy had made electricity generation heavily dependent on British coal). Thus Britain's energy supplies became highly dependent on one source which workers in the industry frequently threatened to interrupt and occasionally did interrupt[21]. Nearly all the important threats to energy security since World War Two have come from the indigenous coal industry. The policy of favouring British-designed nuclear plant was also faulty in security terms since it encouraged concentration on a narrow range of technologies.

Instead of allowing the natural diversification tendencies of markets to operate, governments – pushed by the then powerful coal lobby and the influential scientific establishment which supported nuclear power – concentrated energy supply with the perverse consequences just mentioned. In 1989, on the eve of electricity privatisation, coal supplied 73 per cent of British electricity and nuclear another 22 per cent. Since privatisation, this undue fuel concentration has been tempered by market diversification so that, as of second quarter 2002, the share of coal was 26 per cent, of gas 43 per cent and of nuclear 23 per cent. The coal lobby is

[21] Eileen Marshall and Colin Robinson, *The Economics of Energy Self-Suficiency*, Heinemann, 1984, especially Chapter 5.

no longer with us but there are other potentially damaging interest groups which will seek to exploit market power granted them by government.

Environmental issues

Because the PIU gives pre-eminence to environmental issues, the reincarnated energy policy in effect converges on an environmental policy applied to the energy industries. Market failure reasons are used in justification on the familiar grounds that production, transportation and consumption of energy products give rise to external costs which therefore are not taken into account in decision-making, thus tending to degrade the environment.

It is not true that markets do not take into account environmental effects. On the supply side, where property rights in environmental assets have been established, owners will defend those assets against potential polluters as against other intruders. In other cases, the most appropriate government action is to define property rights so that such market effects will operate. On the demand side, markets will work in the sense that when consumers demand products with certain environmental characteristics, suppliers have an incentive to supply them.

Nevertheless, it is in the case of some global environmental effects, where property rights are hard to define, that the case for government intervention is at its strongest. To put it at its simplest, if the major environmental issue is global climate change and if the cause of that change is emissions of carbon into the atmosphere, the standard economist's prescription is to place an appropriate tax on carbon emissions, thus allowing the market to work better. The PIU report (Chapter 3) puts forward carbon taxation (fixing the price) and carbon emission trading (fixing the quantity) as alternative ways of using 'economic instruments' to provide carbon abatement incentives.

This is a difficult issue. The carbon tax has attractions in principle but, as so often with economists' prescriptions, there are many drawbacks in practice which are centred on scientific ignorance. So far as I can see, the evidence is not clear-cut that climate change is occurring, that carbon emissions are responsible and that world welfare will be reduced by the change (that is, that the loss to the losers will exceed the gain to the gainers) – certainly it is not as clear-cut as the PIU report would have us believe. In those circumstances, determining the tax rate and even deciding whether there should be a tax are extremely difficult. Let me list some of the problems.

First, in accepting that there should be a tax, we rely on the prevailing scientific consensus that climate change as a result of carbon emissions is occurring and will in future represent a serious threat. Against that scientific consensus are ranged a number of dissenters who question whether there is genuine evidence of climate change, whether any change that has occurred is a trend or a cyclical movement that will be reversed, and whether there is a clear correlation between carbon emissions and change in climate[22].

I wonder if I am alone in feeling uncomfortable about accepting the scientific consensus when, on so many occasions in the past, the dissenters have turned out to be right. Forty years ago, the powerful scientific lobby which promoted nuclear power on the grounds that it would become `too cheap to meter' persuaded the government to invest large sums in constructing nuclear power stations. Few people would now claim that consensus to have been correct. Thirty years ago, another consensus – accepted by many economists as well as scientists – formed around the view that ` the days of cheap energy are gone for ever', that markets were incapable of adapting to such shattering events as the oil `shocks` and that only massive government action could save the world.

[22] See, for example, John Emsley (ed.), *The Global Warming Debate*, European Science and Environment Forum, 1996; John P.Weyant (ed.), ` The Costs of the Kyoto Protocoal: A Multi-Model Evaluation', *The Energy Journal*, special issue, 1999.

In the event the government action failed to appear and markets adjusted in a remarkably short space of time so that within ten years world markets were awash with crude oil and prices were tumbling. I have some sympathy with the contrarian view that the prevailing wisdom about energy markets is almost invariably wrong and that, to base policies on it, risks proceeding in the wrong direction.

Second, there is the problem of government failure. If there is a case in principle for applying a carbon tax or some instrument with similar effect, it is naïve to assume that government would implement the required measures perfectly and that there would be no unintended consequences. There is so much uncertainty about what should be done that government would have a great deal of scope to pursue its own tax-raising agenda - as we saw a few years ago when a Conservative government, followed by New Labour, used the excuse of 'environmental action' to impose arbitrary annual increases in road fuel duties until halted by a citizens' protest movement. A general problem in dealing with long term environmental issues is that they presumably require an institution which is not only wise and benevolent but is willing to take a very long view. It seems doubtful whether a government in a representative political system where there are frequent elections is such an institution. A good case can be made that political time horizons are shorter than corporate time

horizons and it seems generally true that governments are unhappy about incurring costs now in order to produce benefits in the long term for their successors.

For such reasons, I have doubts about the carbon tax though I respect the views of those who argue that, as an insurance policy, we should**assume** that climate change is occurring and that it will have a net negative effect. Therefore a carbon tax should be imposed just to move markets in the right direction. Given our present knowledge, which means we have no idea what the tax rate should be; our past experiences in following scientific consensuses; and the unintended consequences which would most likely follow once the policy was implemented by real-world governments, it would be a leap into the unknown.

However, the carbon tax does at least have some advantages in principle over the mix of interventionist ideas in the PIU report. It would permit markets to work, subject to the constraints imposed by the tax. After mentioning carbon taxes and carbon emissions trading in Chapter 3, the PIU then appears to assume, without any supporting argument, that they would be insufficient. On page 93 of its report, the PIU states,

'As well as broad market-based instruments, more targeted policies would be needed, given market failures and other barriers to the development of low carbon technologies.'

As I have already pointed out, some parts of the PIU report emphasise the advantages of markets and point out the problem of government failure. It is not, however, prepared to rely on markets plus some use of 'market instruments'. It wants direct intervention. Indeed, in its discussion of environmental issues the PIU report becomes surprisingly *dirigiste* in tone. It is, apparently, quite plain that climate change is happening, that it is damaging, that markets (even if supplemented by taxes or trading mechanisms) will not work and that direct government action is required. It is obvious therefore that all good people must believe that a policy directed by government and heading towards a 'low-carbon economy' must be the right course of action. The criterion by which energy policy proposals should be judged is whether they are consistent with the 'fundamental goal of moving towards a low carbon system' (para 3.96).There seems no thought here that government might fail – that the objective might be incorrect, that implementation might be poor, that policy might even work perversely as did energy policies in earlier post-war years. Surely a little more humility might be in order, particularly

since the PIU is looking ahead fifty years – a fatal conceit, some might say - though of course the forward look is all in scenario-speak.

The PIU recommends changes in objectives and institutions. For example, it wants government to adopt 'sustainable development' as its guiding principle for intervention in the energy field. That is a principle that requires taking such a long term view one must wonder what incentive a government would have to adopt it. Furthermore, for a principle to become operational, it must be possible*ex ante* to distinguish actions which are consistent with the principle from those which are not. It must also be possible, *ex post*, to monitor whether such consistency was achieved. But the principle is so vague there is a clear danger that governments will use it to justify any action in the energy filed they wish to take, regardless of whether it has anything to do with environmental improvement.

The institutional changes proposed by the PIU do not look promising either. Given the vagueness of the sustainable development objective, it is hard to see how the proposed 'cross-cutting Sustainable Energy Policy Unit' could have any objective basis for its advice. The suggested new National Energy Research Centre will not seem appealing to anyone who was acquainted with the bloated research activities of the energy

industries before privatisation. And recent experiences with `joined-up government' give me little confidence that having responsibility for climate change policy, energy policy and transport policy in one department would result in improved decisions.

When it comes to specific policy ideas, the PIU gathers together a number of previously-suggested ways of moving towards the apparently more benign future it would like and comments on the costs and benefits of each in Chapters 6 and 7 of its report. The government has already embarked on some action, ostensibly on environmental grounds, in the form of the climate change levy – a tax on the business use of energy. The PIU wants more.

It favours government intervention to promote energy conservation: it would like (highly suspicious) round number targets of a 20 per cent improvement for households by 2010 and another 20 per cent by 2020. There should be continued intervention to promote renewables – more round numbers, this time of 10 per cent of electricity generated by 2010 and 20 per cent by 2020. More electricity should be generated from waste. That old favourite, CHP use, should be stimulated. The capturing and sequestering of carbon dioxide from fossil fuels should be investigated. Efficiency in the use of transport fuels should be encouraged

as should a move towards a hydrogen-based low carbon transport system. As regards investment in nuclear power, the PIU wants to `keep options open'. Ofgem should be instructed to give more help to small generators if present measures do not work.

In sum, the PIU has a highly interventionist programme in mind for government. In these chapters it seems to me to have lost sight of its earlier comments about the possibility of government failure and its remark about the 60 per cent carbon dioxide emissions target for 2050 proposed by the Royal Commission on Environmental Pollution. On page 9 of the PIU's report it says `It would be unwise for the UK now to take the unilateral decision to meet the RCEP target, in advance of international negotiations on longer term targets.' But by the time it reaches its scenarios and its policy proposals, the PIU seems to regard the RCEP strategy as the one which should guide action. Consequently, it gives the government the green light for a wide range of interventionist measures. It recognises there will be costs, and muses about action to help poor consumers and energy-intensive companies (paras. 7.105 to 7.109). But the aggregate costs it puts at the equivalent of half-a-year's growth in real GDP over the next fifty years – an implausibly low figure when one considers the amount of government regulation which would ensue and

that the major cost of regulation is its dampening effect on entrepreneurship.

To illustrate in a little more detail the basis of the PIU's proposals, consider Appendix 5 to its report, titled 'Energy Efficiency – the Basis for Intervention'. This is a typical piece of Nirvana economics which produces all the old chestnuts about why the government should intervene to promote efficiency (listed in a table on page 183). The 'key barrier' to energy efficiency, it is claimed, is people's failure to 'seek to optimise the efficiency with which they use energy'. Energy costs are too low a proportion of total costs for any but very energy-intensive consumers to worry about them. Hence the government should step in. I describe this as Nirvana economics because it moves stealthily from the correct proposition that market participants do not optimise energy efficiency to the incorrect view that such optimisation is possible. Furthermore, it leads to a truly startling logical conclusion. If the problem is that, when an input represents only a small proportion of total costs, people will fail to give it proper weight in their decisions and the solution is that government should intervene, it follows that government should examine all those myriad items which represent small proportions of the costs of individuals and companies and, in each and every case, intervene on the

grounds that people do not recognise what is good for them. The result would be a nanny state which goes beyond anything so far conceived.

Conclusions

The reincarnated environmentally-inclined energy policy seems to me little more appealing than the one which died twenty years ago. The failings of the old policies are there for all to see: one of their main outcomes was an excessively polluting electricity supply industry with undiversified sources of fuel and technologies and consequent insecurity. Thus, in terms of the two most important characteristics of the policy now being recommended by the PIU – security and avoidance of environmental damage – it was a dismal failure.

In some ways, government has moved on. It now seems to have turned away from the idea – which had little in its favour – that the energy sector is so important that it must have a policy of its own: what is now described as 'energy policy' is primarily a branch of environmental policy. Moreover, in principle the government seems to embrace the idea of competitive markets rather than planning blueprints. But, in practice, its advisers are recommending a policy, based principally on the apparent environmental effects of energy production, distribution and

consumption, which could lead to very extensive direct government intervention with all its associated problems.

Most of us would probably agree on the basic functions of government – establishing and safeguarding property rights, maintaining law and order, defending the country, providing a safety net for the disadvantaged. Beyond that, there is scope for reasonable people to disagree about such difficult issues as whether there are genuine `public goods' and the extent to which externalities exist and should be internalised by government action. I am sceptical about the case that climate change is occurring and the corollary that there is a major environmental externality which must be internalised. However, I accept that others view the climate change threat as so large that they want urgent action. If there is to be action, it would be better done by using broad economic instruments rather than embarking on the PIU's interventionist programme.

The boundary line between voluntary action and state action is difficult to draw though I perceive a long run tendency for the state to encroach for reasons which have little to do with the `public interest'. My view, which I have tried to express in this lecture, is that, in energy policy as elsewhere, we should beware of attempts to look into the far distant future and, in a vain search for `optimal' solutions, propose

interventionist measures to combat supposed market failures, providing another excuse for government encroachment. The intention is entirely well-meaning but the outcome is unlikely to be so benign. If past history is any guide, the interventionist programme will be supplemented by government responses to unplanned energy events: these responses may, as in the past, turn out to be the major determinants of policy towards the energy sector. We need to beware of pressure groups which will use these events to their advantage as they have done in the past, inflicting on the rest of the community policies which are costly and produce results inferior to what would otherwise have been the market outcome.

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