

CONFIDENTIAL

10 DOWNING STREET

THIS FILE MUST NOT GO OUTSIDE 10 DOWNING ST

FILE TITLE:

POLICY

SERIES

ENERGY

5A
1056

PART:

1

PART BEGINS:

14 JUNE 2001

PART ENDS:

27 JULY 2001

CAB ONE:

Labour Administration

Part closed

PREM 49/1849

CONFIDENTIAL

PART

CLOSED

DATE CLOSED	27 JULY 2001
-------------	--------------

Series : ENERGY

File Title : POLICY

Part : 1

Date	From	To	Subject	Class	Secret
14/06/2001	SS/MOD	PM	Government Pipeline and Storage System	R	0
15/06/2001	PU	PM	Fuel Price Update	R	0
18/06/2001		PU	From Peter Haslam;British Energy-A Mortgaged Future? The Conseq	U	0
20/06/2001	DTI	Cab Off	Compensation Recovery from Miners with Respiratory Diseases	U	0
26/06/2001		PU	From Andrew Warren-Energy Conservation Association-Energy Requ	U	0
27/06/2001	DTI	EA/PS	Renewables Obligation statutaory consultation	U	0
03/07/2001		GovDir	"Oil Markets:Problems and Prospects With Special Reference to the	U	0
06/07/2001	PU	PM	Fuel Price Update	R	0
06/07/2001		PU	From Will Davies, Key messages on Domestic Combined Heat & Po	U	0
09/07/2001	PU	DTI	Miner's Compensation	R	0
11/07/2001	SS/DTI	DPM	The Renewables Obligation Statutory Consultation	U	0
11/07/2001		FCO	invite from Norweign Embassy: invite to PM to speak at the offshore	C	0
16/07/2001	WelshAss	MS/DTI	Review of Energy objectives	C	0
17/07/2001	ss/dttr	SS/DTI	The renewables obligation statutory consultation	C	0
18/07/2001	SS/DTI	PM	Electricite de France UK Acquisitions	C	0
19/07/2001	SS/WO	SS/DTI	State Aid Coal industry aid post 2002	C	0
19/07/2001	Cab Off	PM	Fuel cells for power generation and vehicles	C	0
19/07/2001	SS/DEFRA	SS/DTI	Renewables Obligation Statutory Consultation	U	0
23/07/2001	PD(OJ)	PD(GN)	Prospects for electrivity and gas prices	U	0
23/07/2001	SS/DTI	SS/DEFRA	Renewables Obligation Statutory Consultation	C	0
23/07/2001	CST	SS/DTI	State Aid : Coal Industry Post 2002	U	0
26/07/2001	DTI	DTI	Longannet	U	0
27/07/2001	SS/DEFRA	SS/DTI	Renewables Obligation: Statutory Consultation	U	0
27/07/2001	PD(OJ)	PM	Oil and Fuel Price Update	R	0

**DEFRA**Department for
**Environment,
Food & Rural Affairs**DN
cc: OJ
PA
(4)Nobel House
17 Smith Square
London SW1 3JR

From the Secretary of State

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry
1 Victoria Street
LONDON
SW1H 0ET

27 July 2001

Dear Patricia,

RENEWABLES OBLIGATION : STATUTORY CONSULTATION

Thank you for your letter of 23 July, responding to mine of 19 July, about the Statutory Consultation on the renewables Obligation.

I am as keen as you are to take forward the Renewables Obligation as it will be key to helping us meet our climate change commitments. However, I do feel it is important that we fully recognise the impact of the Renewables Obligation on the achievement of our CHP target.

I would still prefer to exempt good quality CHP supplies from the Renewable Obligation base. My view remains that large CHP operators wishing to export electricity through a licensed supplier will otherwise be at a competitive disadvantage. We estimate that such exports may be as much as 35% of our CHP potential and constraining these exports will in effect limit our ability to meet our CHP target at minimum cost.

I also recognise the importance of publishing the Statutory Consultation as soon as possible, and I would not wish to block it. However, I would ask that you insert a footnote in paragraph 23 of the Consultation Document to make it absolutely clear that supplies of good quality CHP are included within the Renewables Obligation base. We can gauge the reaction during the consultation and, once our officials have worked together further on our draft CHP Strategy, revisit the importance of this issue in comparison with other measures to support the growth of CHP. I would then certainly want to leave open the possibility of a further round of Consultation at that stage if necessary.

I remain concerned over the proposal to include any energy from the incineration of municipal waste, even the biodegradable fraction, within our renewables target. There is a



danger that the inclusion of some energy from the incineration of municipal waste in the renewables target will be represented, in terms of our national waste strategy, as Government support for the "next to worst" waste option in the waste hierarchy, ahead of more preferable options such as waste minimisation and re-use and recycling. I believe there is still a strong case for going further and excluding all energy from the incineration of waste from the Renewables target. This would be in line with the recommendations of the Environment, Transport and Regional Affairs Committee's report on Sustainable Waste Management published in March 2001.

Reynds

Margaret

MARGARET BECKETT

[Copies to the Prime Minister, DA Committee and Sir Richard Wilson]

PRIME MINISTER

✓
From: Oly Jones
Date: 27 July 2001

cc: Jeremy Heywood
Simon Virley
Geoffrey Norris
Brian Hackland

OIL AND FUEL PRICE UPDATE

OPEC agreed a cut in production on Wednesday to hold up world crude prices. Market reaction was muted. Fuel prices have fallen slightly (unleaded is now 77.9p/litre) as lower crude prices over the last two months feed through to the pumps. The latest figures are attached in detail.

International oil markets. OPEC ministers agreed, by telephone, a cut in production quotas on Wednesday. They acted to sustain world prices: crude had fallen to \$25/bbl for the Brent benchmark, or \$23 for the OPEC basket – near the bottom of the OPEC target range. The OPEC press release cited “the impact of the slowing world economy on oil demand, and the relatively strong build up of oil stocks” as the reasoning behind the decision.

However, traders had already priced in the cutback and the market reaction was muted: Brent rose slightly by \$0.26/bbl to \$25.37/bbl. Whilst the production cut is not good news, the lack of major market reaction suggests that further production cuts would be necessary before prices start to rise significantly again.

Wholesale and pump prices. Lower crude prices have continued to drive petrol and diesel wholesale prices down slowly. Pump prices have not fully matched this fall - as before, retailers have continued to restore their profit margins to healthy levels. But the average price of unleaded has fallen to 77.9p/pl, down 1p from its recent high. Diesel is unchanged at 78p/l.

Oly Jones 27/7

OLY JONES

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 20 JULY 2001

SUMMARY

- Average petrol prices continued to fall over the past week and are now 1.1 pence per litre (p/l) below their recent peak
- Average diesel prices are unchanged from last week

Retail Petrol and Diesel Price Changes

On 16 July, the average retail price of **unleaded petrol** was 77.9 p/l, a fall of 0.2 p/l compared to 9 July.¹

On 16 July, average retail **diesel prices** were 78.0 p/l, no change from 9 July.

Factors Affecting Petrol Prices

(i) *Crude Oil Market*

Crude prices have fallen over the past week as refiners in the US demanded less crude, and as Iraqi crude exports resumed. US refiners have been cutting crude runs in response to reduced margins resulting from lower wholesale gasoline prices. This action is reflected in higher US crude oil stocks (up 5.6mb over the last week). The market has also factored in lower demand expectations, with the IEA reducing its estimate of world oil demand growth for 2001 for the seventh time, to 0.46m b/d during 2001. This time last year the IEA was forecasting 2001 demand growth of 1.9m b/d.

(ii) *Wholesale Market*

Wholesale unleaded petrol prices fell 0.4 p/l during the week.

(iii) *US Gasoline Stock Levels*

API data released 17 July showed that US gasoline stocks had followed traditional seasonal patterns by falling by 2.8mb during the last week. Despite this fall, US gasoline stocks remain near their highest level since June 1998, and are a significant contributor to lower and more stable crude and product prices.

(iv) *US Distillate Stocks*

With the US driving season now well under way, market attention will soon start to focus on the availability of heating oil for the Northern Hemisphere winter. This is one of the key factors which will drive crude oil prices during the second half of 2001. US distillate stocks continued to build over the past week, with reports of a further 2.8mb being added to stocks. At this level, distillate stocks are approximately 10% higher than for the same period last year.

1. Since 1 April 2001, average unleaded petrol prices collected by the DTI have related entirely to ULSP (ultra-low sulphur petrol).

(v) Refinery Capacity

The UK supply situation is normal.

Factors Affecting Diesel Prices

Wholesale diesel prices fell by 0.2 p/l over the past week.

UK Competition

Petrol retailers' margins increased further this week by 0.2 p/l as wholesale price reductions outstripped retail price decreases.

Market Sentiment

The market is more stable as international gasoline wholesale prices fall and petrol retail margins recover.

Future Market Outlook

The UK petrol retail market is currently healthy, with increased margins allowing retailers to further reduce average petrol prices this week. The market still has considerable headroom for further retail price reductions.

Recent Trends in Petrol and Diesel Market Prices

To set the context of prices, crude, wholesale product and margins data are charted and discussed below. There are two versions of each chart, one putting recent experience into perspective, by showing data from the start of 2000, the other giving data from around the start of February this year. In each case, a note indicates whether the textual commentary has been updated since last week's brief. Changed or new text (under Charts 1, 3, 5 and 6) is italicised.

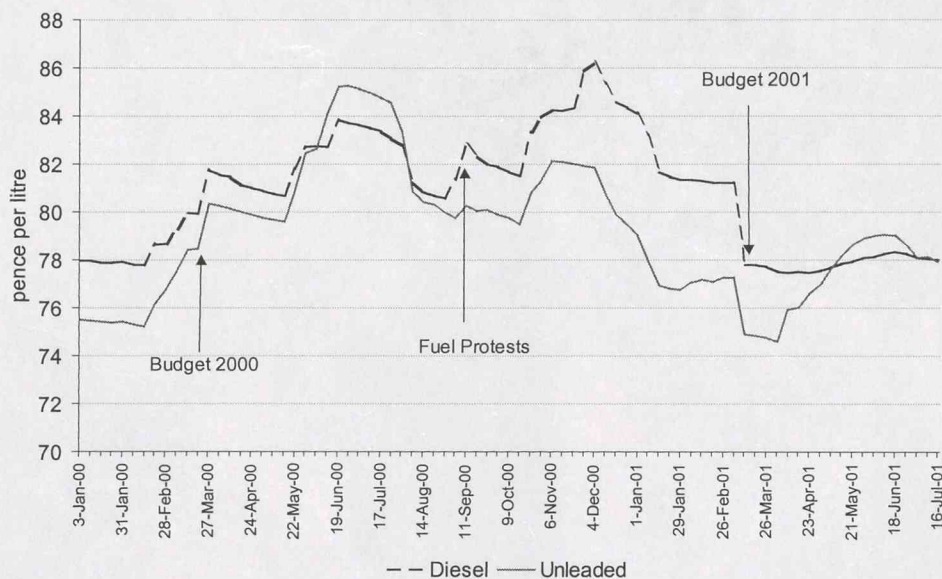
Contacts for more information

Gordon Duffus (020 7215 5287; Gordon.Duffus@dti.gsi.gov.uk)

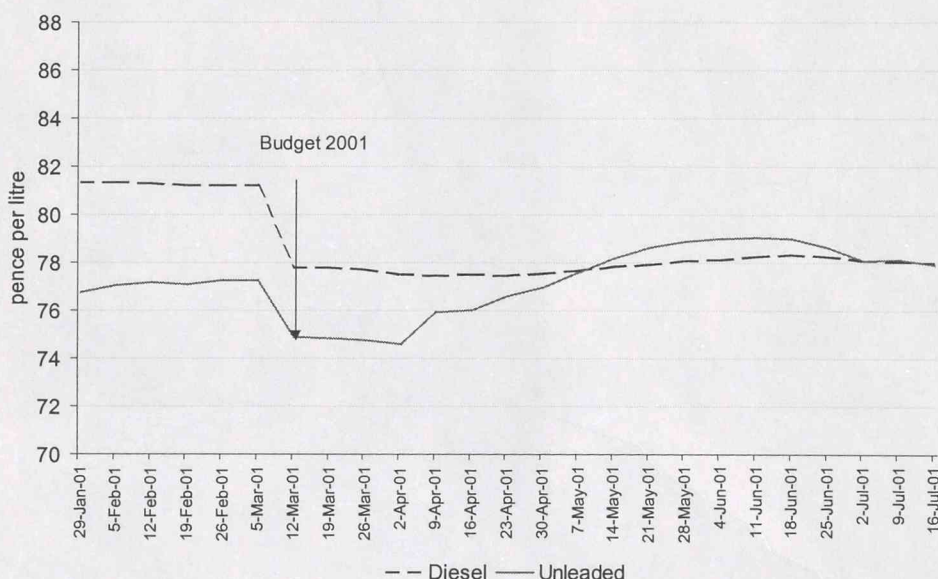
Neil Semple (020 7215 5114; Neil.Semple@dti.gsi.gov.uk)

Oil and Gas Directorate, DTI, 11 July 2001

Chart 1: UK Retail Prices – from January 2000 to now:



From February 2001 to now:

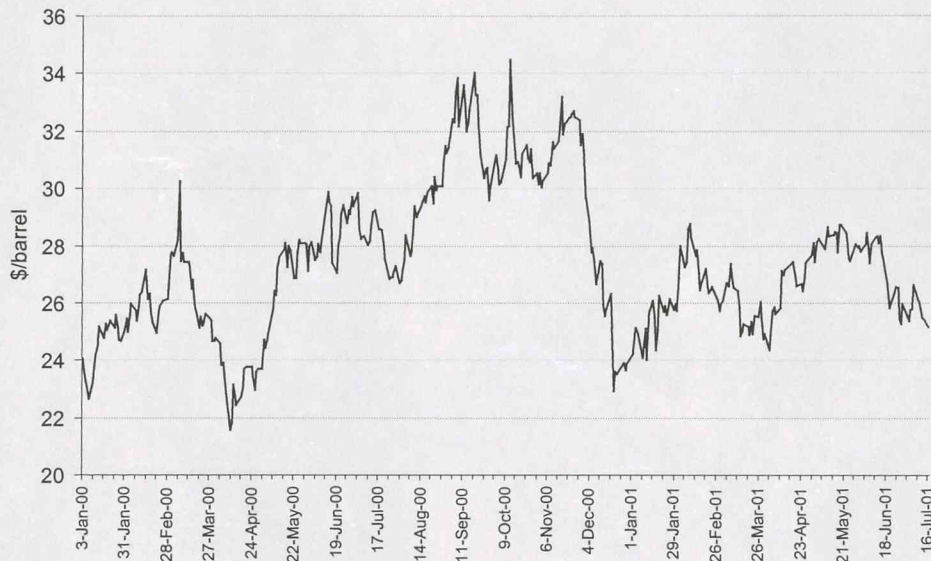


There was a petrol price spike in the early summer of 2000. At the end of June a combination of increased US gasoline demand, new US and European fuel specifications and low stocks led to price rises. Prices increased again in late October/early November 2000 mainly because of higher crude oil prices and petrol retailers attempting to recover from low margins following the fuel crisis. From the second week in April, retail petrol prices increased mainly as a result of higher international wholesale petrol prices. *They have now been steadily falling for the past five weeks, following sustained falls in wholesale prices.*

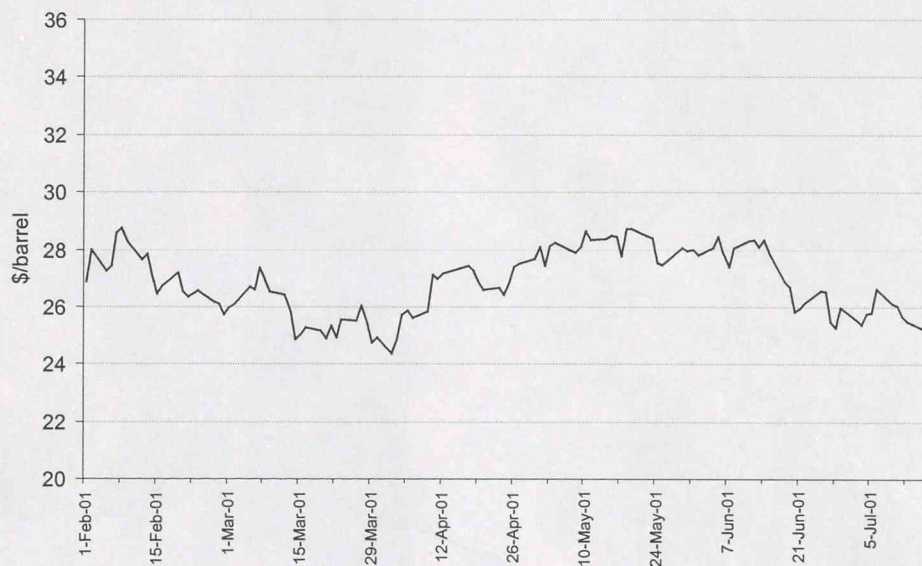
Retail diesel prices peaked in December with the onset of peak winter demand for heating oil leading to tighter global supplies of diesel. Retail price pressure has eased now that we have moved out of winter in the Northern Hemisphere.

Source of data for Chart 1: company data collected by ENP Directorate, DTI

Chart 2: Two Month Brent crude oil futures - from January 2000 to now:



From February 2001 to now:

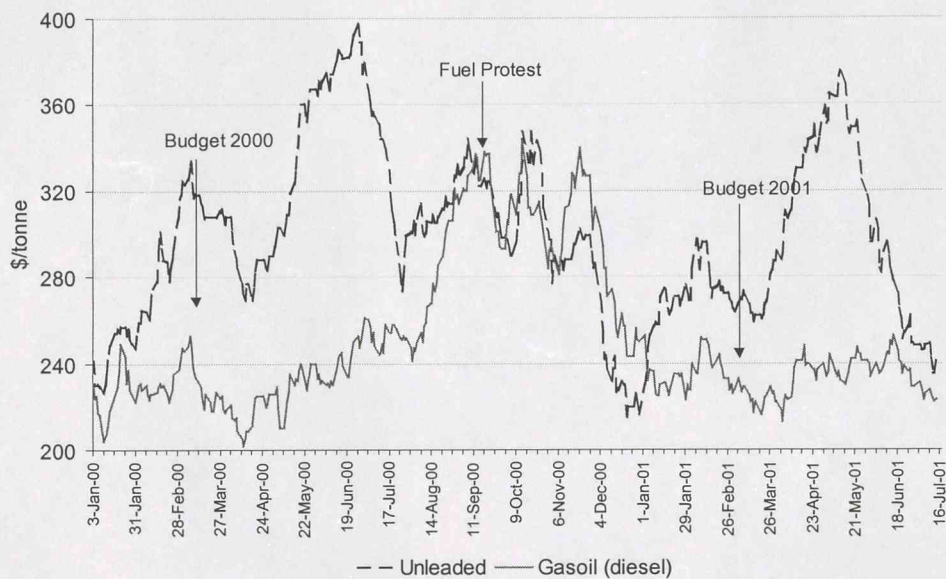


[Text below unchanged this week.]

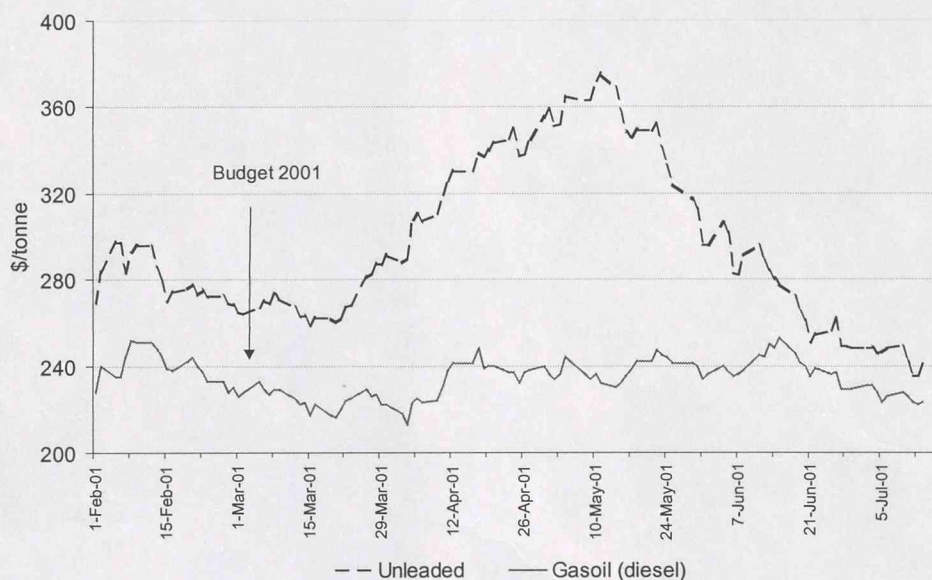
Crude prices rose throughout 2000 driven initially by concerns over low stocks; crude oil prices were then dragged up by the product markets. As supply improved following OPEC production increases, the price fell back and is now trading in the range \$25–30/barrel. The OPEC crude basket is typically \$1.5/barrel below Brent.

Source of data for Chart 2: International Petroleum Exchange

Chart 3: North West Europe wholesale product prices - from January 2000 to now:



From February 2001 to now:



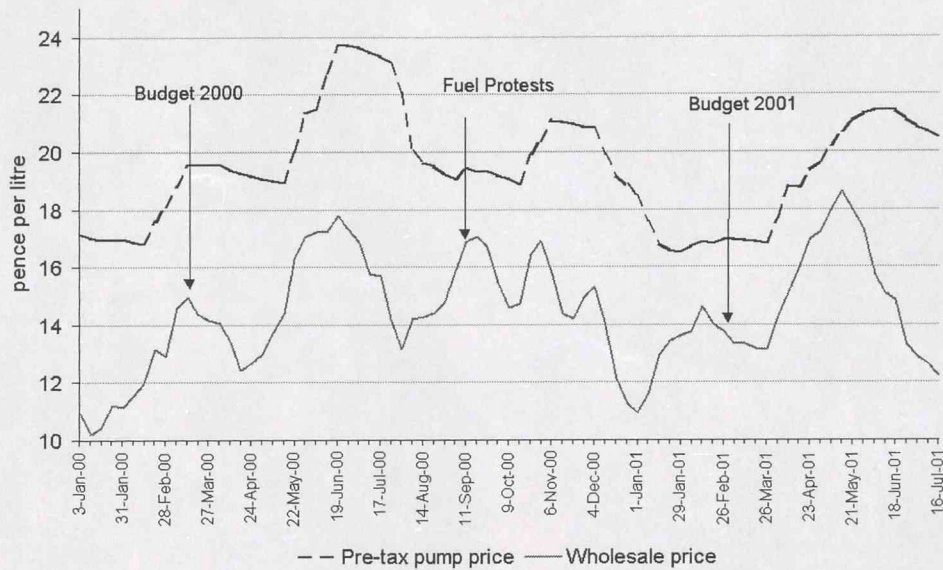
Wholesale gasoline prices rose sharply in the spring and early summer of 2000, due to low stocks in the US and difficulty in implementing the new environmental fuel specifications. UK production problems at Grangemouth also reduced supply. As the US driving season ended, and production improved, gasoline prices fell sharply and then started to track movements in crude. Prices rose again in April as US stocking concerns returned. However, from the middle of May wholesale prices fell as market concerns over US gasoline supply eased. *Wholesale prices have now fallen by almost 6.4 p/l since their peak in mid May.*

For diesel, the price rise in the late summer and autumn of 2000 was caused by the increase in seasonal demand and the rise in crude prices. Prices in the period January to June 2000 were relatively stable and that pattern appears to be repeating itself this year.

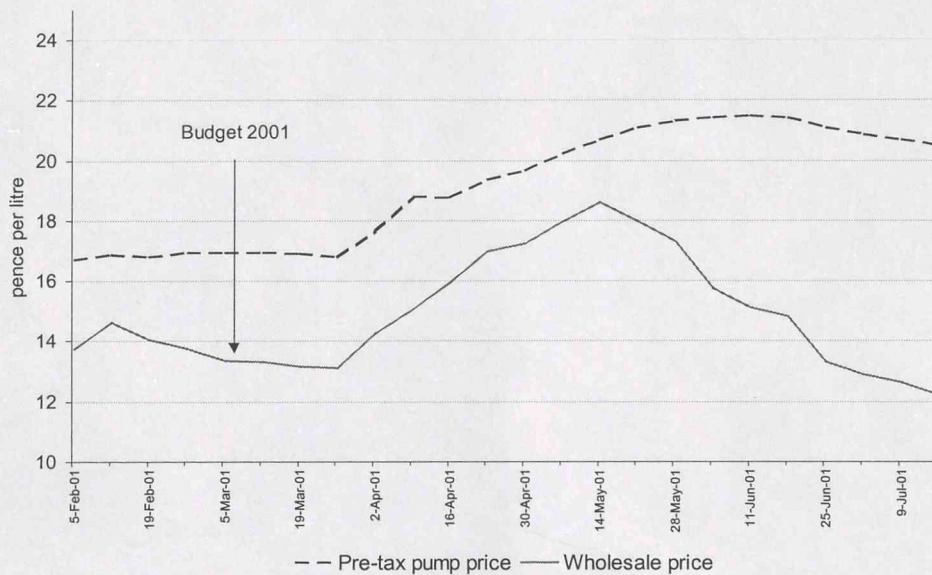
Source of data for Chart 3: Platts

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 20 JULY 2001

Chart 4: UK pre-tax unleaded petrol prices - from January 2000 to now:



From February 2001 to now:



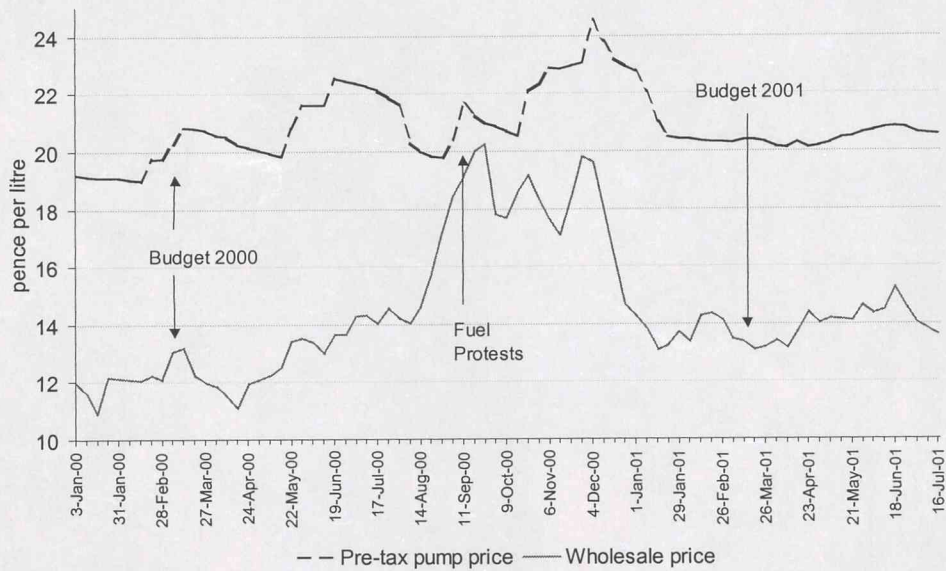
[Text below unchanged this week.]

UK pre-tax retail pump prices have generally tracked Rotterdam wholesale spot prices. The gap in the two prices was at its narrowest at the time of the fuel crisis, when UK retail margins reached unsustainable levels. *Pre-tax pump prices continue to fall, as wholesale prices decrease further.*

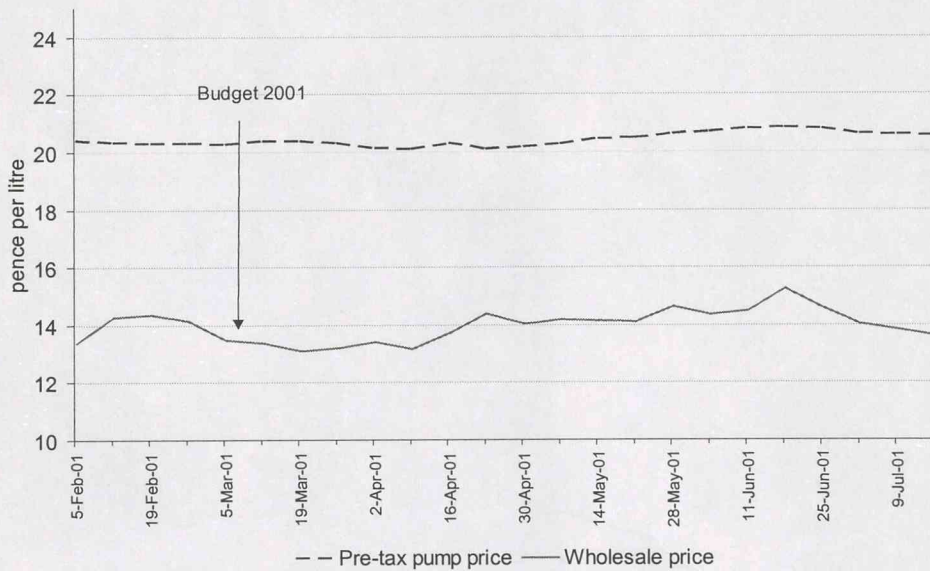
Source of data for Chart 4: Platts and company data collected by ENP Directorate, DTI

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 20 JULY 2001

Chart 5: UK pre-tax diesel prices - from January 2000 to now:



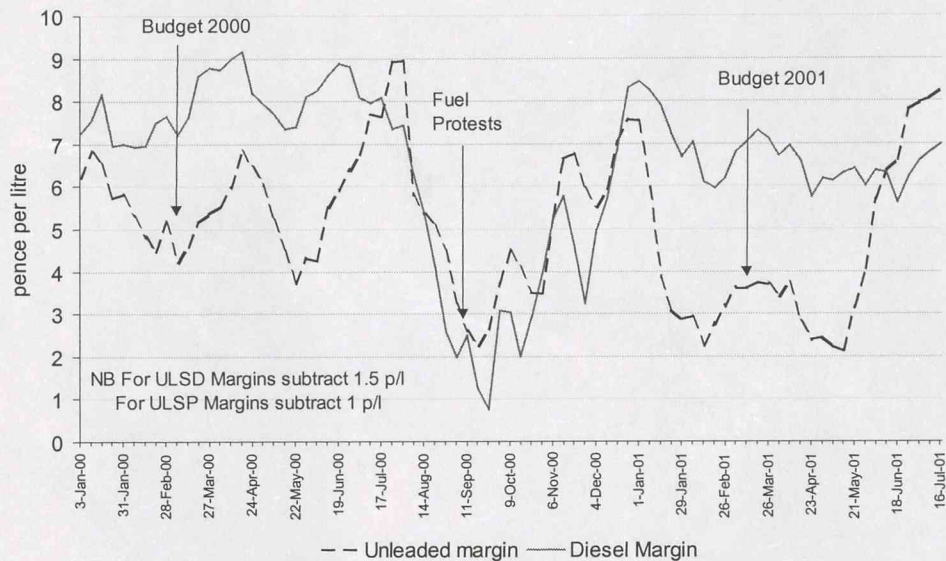
From February 2001 to now:



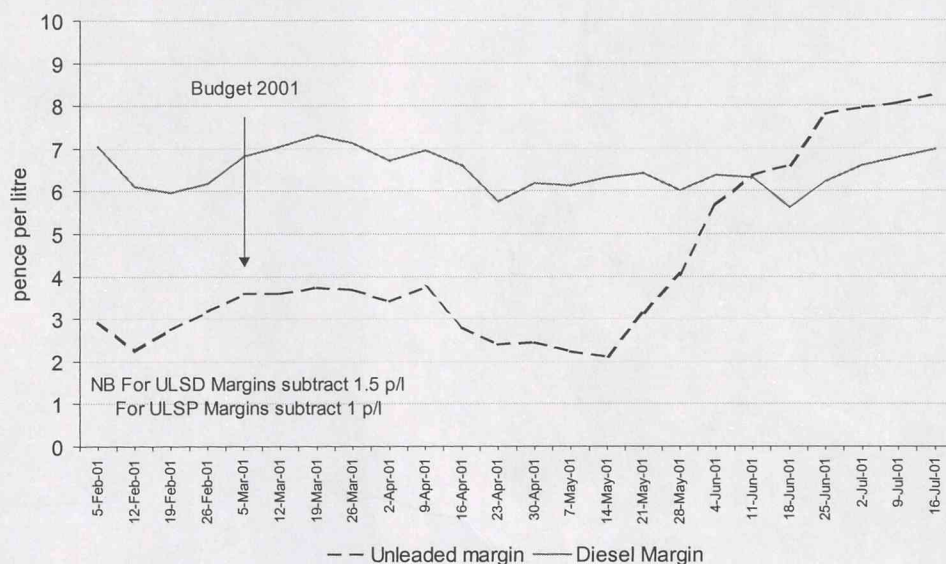
The UK pre-tax retail diesel pump price spiked in early December 2000 as a result of high crude prices and increased demand in the northern hemisphere for domestic heating oil which led to tighter diesel supplies. *The price was unchanged for this week.*

Source of data for Chart 5: Platts and company data collected by ENP Directorate, DTI

Chart 6: UK Retail Margins – from January 2000 to now:



From February 2001 to now:



UK petrol retail margins were subject to substantial gyrations during 2000, with margins normally rising at times of price increase in the market such as the post-Budget period, the early summer and late October/early November. Current margins of 8.3 p/l are now very healthy and are at their highest level since the beginning of the year. Retailers, depending on their site portfolio, have until recently achieved a margin of about 5–6 p/l to cover both variable and fixed costs.

Diesel margins were respectable in the first half of 2000 and then plummeted to reach a low during the fuel crisis. They then recovered as retailers tried to recover their margins and, with the onset of increased winter demand, that led to higher retail prices. *UK retail diesel margins increased by a further 0.2 p/l this week, as the fall in wholesale prices was not reflected in lower retail prices.*

Source of data for Chart 6: Platts and company data collected by ENP Directorate, DTI

fde

To: Mr Wilson
From: Peter Mason
Director, Coal
V/296
Tel: 020 7215 5003
Fax: 020 7215 2728
Date: 26 July 2001

ci: PS/Secretary of State
Robin Young
Anna Walker
Rob Wright CPD
Alan Wright FRM
Terry Le Maistre FRM
Richard Leyland FRM
Chris Barton CPD1
Joanna Edwards CPD1
Geoffrey Norris No. 10
Policy Unit

LONGANNET

I attach a briefing for tomorrow's meeting with Ross Harper, Chairman of Mining Scotland Ltd (MSL). Colin Cornes, (the majority shareholder) turns out to be unavailable.

2. MSL have requested the meeting to press their case for what is in effect an additional £4.9m of subsidy on top of the £36m they have already got or are due to get by the end of the year.
3. You will not be able to offer any movement at this stage – this clearly counts as a new commitment where there is no existing obligation. You will also note that the sums MSL are now talking about both for last year and this probably bring into serious question the value for money of continuing to support Longannet.
4. You will want to form a view, however, of how far MSL are trying it on. It may be significant that they are hiding behind the word 'criticality', rather than saying outright that Longannet will close if we do not pay up. If Longannet really will close without this extra cash, this is unlikely to be end of the lobbying. However, the value for money point will remain a real obstacle.
5. Joanna Edwards and I will be attending the meeting.

P6M

Peter Mason

Briefing

1. You are meeting Professor Ross Harper (Chairman) and Colin Cornes (major investor) of Mining (Scotland) Limited (MSL) on 27 July.

2. The meeting was urgently requested by MSL in order to seek payment of additional losses made at Longannet mine. It follows a written request of 23 July in which Derek Walker (Finance Director, Scottish Coal) asked for DTI reconciliation policy to be formally reconsidered by ministers. MSL will press strongly for this policy to be reversed, and will wish to make you aware of the critical state of their financial position.

3. Briefing has been provided on;

- Reconciliation process page 2
- Scottish Enterprise loan guarantee page 4
- Independent Insurance page 5
- Post-2002 subsidies page 6

Background

4. Longannet, owned by Scottish Coal (SC) (a subsidiary of MSL), is located in Fife and employs approximately 800 people. £17.5m of aid under the Scheme has been approved and paid in respect of coal produced at Longannet in 2000, and a further £18.5m has been approved (and three quarters of it paid to date) in respect of that produced in 2001.

5. Applications for aid are approved and paid on the basis of forecast losses. However, there is a reconciliation process to ensure that applicants do not end up with subsidy in excess of actual losses. The subsidy offer letter on which payment was made explained that reconciliation payments would only be made from applicants to DTI, and not from DTI to the applicant. The issue of whether payments should also be made from DTI to applicants in the event of an under-claim was re-examined earlier this year, and your predecessor agreed with our advice that they should not. You confirmed this view in your response to Rachel Squire MP's letter of 14 June on behalf of Longannet.

6. MSL have repeatedly approached DTI to argue for increased subsidy on the basis of their worsening financial position, resulting from a series of mining setbacks. Prior to the election they claimed that the future of the mine was in grave doubt. We felt that this represented an element of crying wolf with the election looming (as detailed in Chris Barton's submission to your predecessor of 18 May). In this instance MSL state that the extra £4.9m of funding is 'critical to the continued trade of Longannet'. Forecast additional losses for 2001 stand at £6.1m (on top of the £18.5m of losses covered by the subsidy). It is not impossible that Longannet's future is in real doubt. (If it were to close we could in principle reclaim from MSL the subsidy paid to date.) However, we would advise that this potential scenario does not warrant the reversal of our reconciliation policy and the associated consequences.

Reconciliation

Lines to take:

- Reconciliation remains a one-way process. It will not be possible to increase subsidy payments for Longannet in respect of losses made in 2000 or 2001.
- MSL has been made fully aware of our reconciliation policy by officials. While policies are not set in stone, we do not see a case for changing our policy at this time, nor do we foresee doing so in the future.
- DTI do not have funding for additional subsidy payments.

1. Officials met with representatives of MSL on 20 July. MSL again argued that they had always expected reconciliation to be a two way process, and had signed the offer letter on this basis. We refute this claim. Chris Barton's e-mail of 12 December 2000 to Derek Walker stated:

'The offer letter only provides for reconciliation payments from Mining Scotland to DTI. It does not provide for such payments from DTI to Mining Scotland, but nor does it preclude them... Clearly we can not make guarantees as to whether DTI would consider such payments appropriate, not whether Commission approval would be given.'

2. MSL state that when they realised that losses in the 2000 subsidy period were going to be greater than forecast, they incorporated receipt of additional subsidy of £3.9m in August 2001 into their financial plans. They argue that it is on the basis of receiving this sum that they are currently trading. MSL have now calculated that its **actual qualifying losses were £4.9m greater than the subsidy received**. They have therefore requested that our reconciliation policy is re-examined, and this additional sum paid to them.

2. We explained to MSL that, while in theory it was not absolutely impossible that further subsidy payments could be made to them in respect of 2000 production, there were formidable obstacles to this happening. We also informed MSL that we considered it very unlikely that ministers would reverse their position on the grounds of the existing arguments. To make further payments to MSL the decision on reconciliation would have to be reversed. **Foreseeable consequences** would be:

- To raise the prospect of substantial increases in subsidy payments as other applicants made use of the change of policy.
- Allowing two-way reconciliation would remove a key incentive on applicants to control costs – we would potentially be reimbursing them for any losses in the relevant subsidy period.

MINING (SCOTLAND) LTD MEETING – 27/07/01

- The European Commission would have to agree to the increased payments. This would be extremely doubtful given their concern about the level of Longannet's existing subsidy.
- The political view in the UK would have to be that the greatly increased costs and use of negotiating capital required to secure Commission approval (at a time when we are hoping to secure a favourable outcome to post-2002 coal state aid negotiations), were warranted in value for money and national interest terms.

3. Our economic advice in November 2000 was that the forecast level of aid for Longannet could not be said clearly NOT to represent value for money. This advice was based on the expected value of future profits after the end of the Scheme, estimated at £45m (in present value terms) up to 2010. Thus in very broad terms it would be hard to say that a subsidy in excess of £45m was value for money.

4. A reconciliation payment from DTI in relation to Longannet's 2000 application would increase their total forecast subsidy under the Scheme to £45m (we anticipate them claiming £4.2m in 2002, our previous estimates have been proved conservative). However, MSL inform us that they have also experienced considerable difficulties in 2001 and **their actual qualifying losses for the second subsidy period are now forecast to be £24.6m**. If reconciliation payments were made by DTI for 2000, and therefore 2001, it would push subsidy to Longannet to over £51m. This would represent £64,000 per worker at the mine. It would take subsidy payments for Longannet beyond a level that could comfortably be defended as value for money.

Scottish Enterprise

Line to take:

- We support Scottish Coal (SC) in agreeing a viable exit strategy with Scottish Enterprise from March 2002. However, we will not be able to provide funding above that already agreed in order to achieve this goal.

1. Scottish Enterprise (SE) have guaranteed a bank loan to SC of approximately £4.5m following problems faced by Longannet in 1999. SE was talking about withdrawing the guarantee at the end of May. This could have caused the bank to foreclose on the loan and precipitate SC's closure. SE have since agreed to extend the loan month by month, and have hired Ernst & Young to advise on SC's position with a view to the guarantee being extended longer term.

2. The loan is currently due to expire at the end of July. We understand that SC has submitted a formal proposal to SE this week in order to agree an extension beyond the current expiry date. SC states that significant progress is being made in negotiating a deliverable exit strategy for SE from March 2002. However, they claim that they will not be able to conclude the agreement if they have not secured short-term funding ie. additional subsidy from DTI.

Independent Insurance

Line to take :

- We welcome SC's rapid actions to find new insurers. We will need to be informed of additional costs incurred as a result, as far as they will affect the subsidy.

1. Along with other UK mines SC suffered considerable losses when their insurer, Independent Insurance, called in the provisional liquidators earlier this year. This resulted in loss of production while new cover was secured, and the loss of existing premiums.

2. It is very difficult for deep mines to secure insurance, however SC has now acquired cover through Lloyds underwriters. They are not yet clear what the premiums will be for this arrangement, but they will undoubtedly be higher. It is also unclear if they will be able to recoup any of the premiums paid to Independent. DTI officials will need to be informed of any increased costs, as far as they relate to the subsidy claim (although the one-way reconciliation policy will again mean that these costs cannot be met from subsidy unless actual losses are otherwise lower than forecast for 2001).

Post 2002

Line to take:

- The European Commission published proposals for coal state aid post-2002 this week. We are in the process of examining the proposed regime and its implications for the UK. We still do not anticipate paying operating aid beyond the expiry of the current scheme.

1. The current UK Coal Operating Aid Scheme operates beneath European regulations on coal subsidies under the European Coal and Steel Communities Treaty, which expires in July 2002. The scheme was designed and promulgated as a temporary measure to help production units with a viable medium-term future through a short-term crisis caused by increased world coal prices and the lifting of restrictions on new gas-fired power stations.

2. The finalised post-2002 European regime is almost certain to permit member states to grant coal operating aid, and Germany will take full advantage. This will lead to considerable pressure on HMG from producers such as MSL and UK Coal to continue to grant operating aid. HMG currently has no provision for coal subsidies beyond July 2002. Moreover, the Chief Secretary's response to the Secretary of State's letter, concerning the negotiating position we are taking, expressed concern at the possibility of any UK subsidy scheme after 2002. The conclusions of the PIU study will give pointers as to what role, if any, subsidies might play in future energy policy.

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry



Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

The Rt Hon Margaret Beckett MP
Secretary of State
Department for the Environment,
Food and Rural Affairs
Nobel House
17 Smith Square
London SW1P 3JR

(P)

23 July 2001

DN

cc: PA

Dear Margaret,

RENEWABLES OBLIGATION STATUTORY CONSULTATION

Thank you for your letter of 19 July about the Statutory Consultation on the Renewables Obligation. I am grateful for your general support for our proposals and wish to address your two remaining concerns. I very much hope that we can resolve these issues urgently to allow us to publish the consultation this side of the summer break. Any delay on the consultation risks undermining the Government's credibility with the green groups on this issue and would make it very unlikely that we could secure the approval of Parliament for the Obligation before the end of the year. This would obviously delay implementation and would be damaging to the renewables industry. I fully share your concern about achieving the CHP target, but I would prefer to consider the option of an exemption alongside the other possibilities for support set out in your draft strategy. If an exemption proves to be the most cost-effective mechanism, I would be willing to consult again at a later stage. On the waste point, I feel that we have gone a long way to meeting Michael Meacher's concerns in developing our policy, but I share Treasury's concerns about the extra cost that would be involved in excluding even the biodegradable element of municipal waste from our renewables targets.

Your first point is your wish to exempt licensed suppliers of CHP from the Renewables Obligation. I share your concern about the difficulties affecting the CHP industry at present and recognise the difficulty that we will face in meeting the target of doubling capacity by 2010. I understand that our officials are working together closely on developing a CHP strategy and I very much hope that this will be successful in identifying cost-effective measures of support for CHP that will enable the target to be met.



As you acknowledge, there is remaining legal uncertainty about whether we have the powers to grant an exemption. Also, while we recognise that the granting of an exemption would offer some advantage for CHP, our analysis has not demonstrated that imposing the Obligation without the exemption would bring significant disadvantage for CHP.

Exemption for CHP would also entail significant costs for other suppliers, calculated as up to £37.5 million per year by 2010. This would need to be taken into account in establishing whether the exemption is the best form of support for CHP or whether other measures, such as an extension of the present partial exemption of good quality CHP from the climate change levy, would be more effective.

Given that our Renewables consultation is otherwise ready to go, I am most concerned that the working up of an exemption policy and development of the legal provisions, with the need for state aid clearance, would considerably delay the consultation until later in the year. There is a serious risk of a much longer delay if the exemption for CHP were to prompt other generators to seek similar exemption for technologies such as coal mine methane, large hydro and nuclear power. Against a background of uncertainty about the legal basis for such an exemption and its relative value compared to other measures being discussed in the context of the CHP strategy, I would be grateful for agreement that we should go ahead and publish our consultation now. If it turns out that we do have the legal basis for the exemption and that such a measure would be the most appropriate measure of support for CHP we would, for our part, accept that a further round of statutory consultation on the proposal might need to be undertaken.

Your second point related to the exclusion from our renewables targets of energy from the incineration of municipal waste. The incineration of mixed municipal waste will not, of course, benefit from the Obligation and I have already indicated that I am willing to go some way to meeting Michael Meacher's concern by also excluding all energy derived from the fossil element of waste, such as plastics, from the target. I am not convinced that exclusion of the biodegradable element of waste is fully justified. It would make our target much more difficult, if not impossible, to achieve and Paul Boateng has made clear that the additional cost involved (some £90 million per year) would not be acceptable to the Treasury.

On this basis, I hope that you will reconsider your position and agree that the consultation can go ahead. Delay will be damaging to the renewables industry and will inevitably raise questions about the Government's commitment to delivery on environmental issues.

I am copying this letter to the Prime Minister, DA Committee and Sir Richard Wilson.

Best with,

PATRICIA HEWITT

Betty Forster

From: Geoffrey Norris
Sent: 23 July 2001 09:25
To: Betty Forster
Subject: FW: PROSPECTS FOR ELECTRICITY AND GAS PRICES

to print please

-----Original Message-----

From: Oliver Jones
Sent: 20 July 2001 15:25
To: Geoffrey Norris
Subject: FW: PROSPECTS FOR ELECTRICITY AND GAS PRICES

Patricia H wanted No10 to see the attached - DTI estimates about shorter term future electricity and gas prices.

the second document is the most useful summary - charts at back sum up the situation well. the base scenario is essentially that electricity prices for all customers look likely to stay level, and gas prices to fall (after the recent rises). but the likely alternative scenarios are that that electricity goes up, and gas remains at current levels - less good news.

i'm not sure this is something for the pm at this stage - what do you think?

-----Original Message-----

From: Hewitt MPST [mailto:MPST.Hewitt@dti.gsi.gov.uk]
Sent: 17 July 2001 20:11
To: 'Oliver Jones'
Subject: FW: PROSPECTS FOR ELECTRICITY AND GAS PRICES

Oly

SOS asked for this to be forwarded to you - gas prices are an ongoing concern. We'll be getting further advice shortly.

Damian

-----Original Message-----

From: Gault Adrian (Mr AR)
Sent: 22 June 2001 10:41
To: Wilson MPST (New Accounts)
Cc: Hewitt MPST; Walker Anna (Mrs A); Energy HMU Only; ENP Directors - Energy; Eggington Ann (Dr MA); Havard John (Mr JE); Fulwood Janet (Mrs JA); Green Stephen (Mr SR); McDonagh John (Mr JMN); SPAD MPST
Subject: PROSPECTS FOR ELECTRICITY AND GAS PRICES

PS/Mr Wilson

Please see attached submission on prospects for electricity and gas prices over the period to 2005. There is a summary of key points in PROSPECTS SUMMARY 1.doc.

A note on this was requested by Mr Hain and included in the list of promised briefings for the Minister.

Adrian Gault
Director, ENP3

23/07/2001

<<prospects cover.doc>> <<PROSPECTS SUMMARY 1.doc>> <<PROSPECTS FOR ELECTRICITY AND
GAS PRICES.doc>>

Ref.

To: Mr Wilson

From: Adrian Gault
Director, Energy Economics
ENP3
1VS/V 190

Tel: 020 7215 2673

Fax: 020 7215 2723

Date: 22 June 2001

ca: PS/Secretary of State
Anna Walker
Energy HMUs
Alistair Keddie
ENP Directors
Ann Eggington
John Havard
Janet Fulwood
Stephen Green
John McDonagh
SPADs

PROSPECTS FOR ELECTRICITY AND GAS PRICES

Issue: a note is attached on prospects for electricity and gas prices to 2005. This was requested by Peter Hain.

Recommendation: that you note the contents. A brief overview of key points is contained in the 2 page summary that begins the note.

Timing: not urgent, but important background to a number of submissions on energy issues that you have or will be receiving.

A. R. GAULT

PROSPECTS FOR ELECTRICITY AND GAS PRICES TO 2005

1. Forecasting energy prices accurately is notoriously difficult. What we say about prospects in this note is undoubtedly subject to great uncertainty. There is at the very least an element of variability that we cannot predict. However, we can look at some of the known pressures on prices – up and down – and consider broad prospects as likely to be driven by market conditions. That is what this note attempts to do.

2. The focus is on prospects to 2005. There are a number of longer-term pressures, to 2010 and beyond, that suggest price increases. We can return to this in a further note.

Scenarios

3. Reflecting the uncertainties we consider two broad scenarios:
- a base case (A) ELECTRICITY, (B) GAS: meant to provide a best assessment of prospects. Uncertain, but not meant to be inherently biased upwards or downwards.
 - a high scenario (C) ELECTRICITY, (D) GAS: focusing on the upside risks. Not our best guess, and probably unlikely that every one of the upside risks considered would operate jointly. But indicative of the potential for upward pressure.

Summary

BASE CASE, % CHANGE FINAL PRICE TO 2005 (real terms)

	Industry	Commercial	Domestic
Electricity	0 to +4	-1 to +2	-2 to +1
Gas	-15	-11	-4

HIGH CASE, % CHANGE FINAL PRICE TO 2005 (real terms)

	Industry	Commercial	Domestic
Electricity	+9	+7	+5
Gas	-	+2	+5

Those broad percentage changes over a 4-5 year period abstract from possible year-to-year changes. It may also be useful to see these changes in the context of the recent level of prices – the **charts at Annex A** illustrate actual prices, and these predictions, for the period 1995-2005.

Key points:

- UK markets are fairly competitive. There remains scope for some further efficiency gain to bring prices down further, but this is now limited.
- The outlook for final prices is very dependent on what happens to the price of oil. If the real price of oil comes down over the next few years (our base case) prospects are better than if the price remains high. European gas market liberalisation would help de-link gas from oil prices, but prospects for this to achieve much are probably more for the 2nd half of the decade.

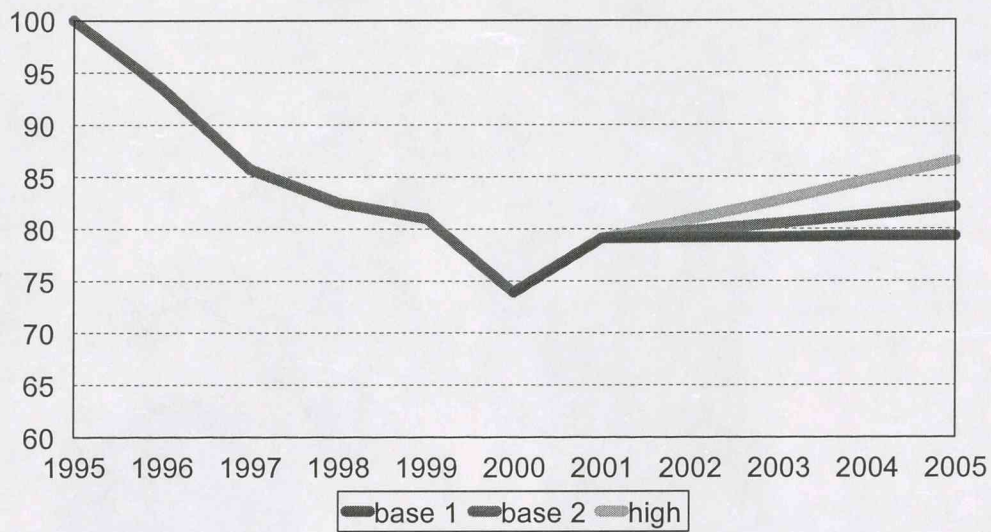
Positive points:

- In our base case, we expect – over the next 4 to 5 years - the price of gas to come down from recent levels, in both domestic and industrial sectors;
- Electricity prices are at historically low levels. NETA, regulatory reform and plant divestment seem to have delivered a lot in those terms;
- In the base case we expect these low electricity prices to be maintained, with further regulatory and efficiency gains broadly offsetting the costs of obligations attached to renewables and energy efficiency commitments;

Negative points:

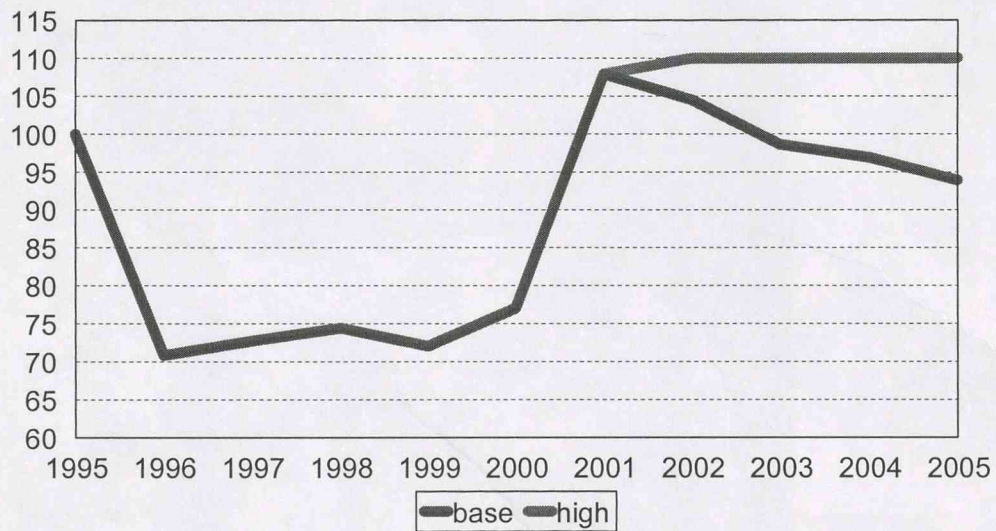
- Following on from the rise in gas prices in 2001, a further rise in 2002 is possible – particularly in the domestic sector where the effect of past wholesale price increases has not fully fed through. Much depends on how much of the wholesale price increase companies are prepared to continue to absorb – dependent in turn on the short term movement of the oil price;
- Even if the oil price comes down, and brings the gas price down with it, we do not see the industrial gas price returning to the low levels of 1996-99, so industrial/commercial complaints on this issue will continue;
- Longer-term prospects (not the main subject of this note) are not necessarily so good.
 - Low electricity prices could deter investment in new generation capacity. There is currently a healthy margin, but we need to monitor this position closely;
 - As the UK becomes a net (annual) importer of gas, and as European gas demand rises, we will become reliant on supplies from more distant sources and there are then prospects of gas price increases.

Electricity Price Indices for the Industrial Sector



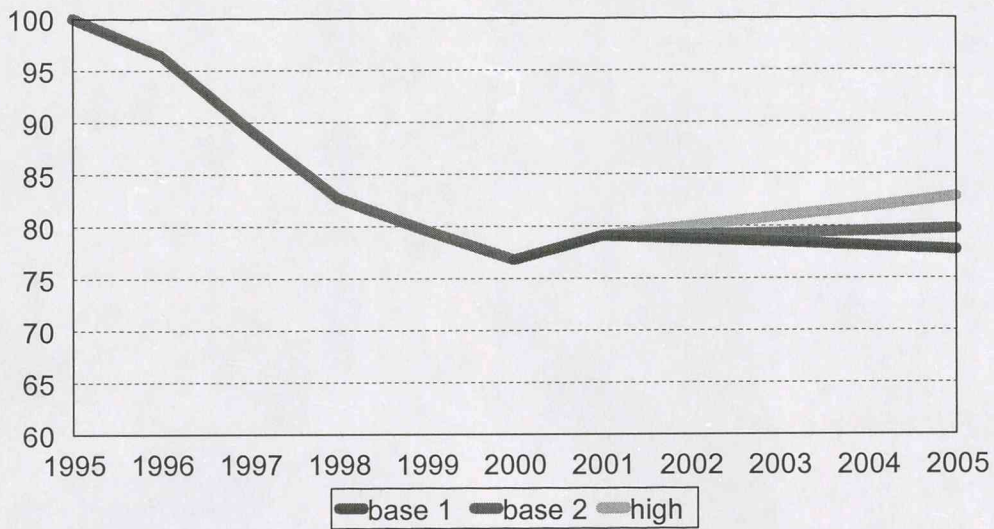
index 1995=100

Gas Price Indices for the Industrial Sector



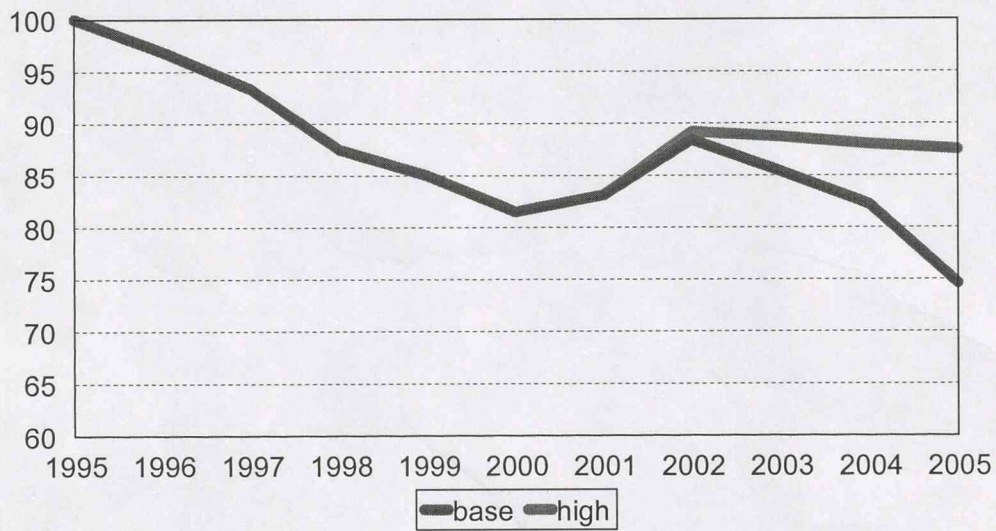
index 1995=100

Electricity Price Indices for the Domestic Sector



index 1995=100

Gas Prices Indices for the Domestic Sector



index 1995=100

PROSPECTS FOR ELECTRICITY AND GAS PRICES TO 2005

A. ELECTRICITY: BASE CASE

Table 1: Projected electricity price change to 2005, base case

	<i>Industry</i>	<i>Commercial and other</i>	<i>Domestic</i>
Current price p/kWh¹	3.71		6.82
% change (real) arising from:			
NETA and plant divestment	-	-	-
Fossil fuel prices	0 to + 3.5	0 to + 3.0	0 to + 2.5
Distribution price controls	- 2.5	- 3.1	- 3.7
Transmission price controls	- 0.3	- 0.3	- 0.3
Energy Efficiency	-	-	+ 1.2
Commitment Renewables	+ 3.1	+ 2.2	+ 1.0
TOTAL	+0.3 to + 3.8	-1.2 to + 1.8	-1.8 to + 0.7
Projected price p/kWh	3.72 to 3.86		6.70 to 6.87

NETA and plant divestment

A1. The 1998 White Paper stated that we could expect a reduction of at least 10% in wholesale electricity prices – resulting from a combination of new electricity trading arrangements (NETA), and divestment of generation plant introducing increased competition. In fact, compared with a pool price of 2.5p/kWh in 1998, forward prices for the year commencing in April 2002 have recently been fluctuating between 1.7 and 1.9p, a reduction of around 30% in real terms since 1998. Forward markets further ahead are only thinly traded, and may not be a good indication, but suggest little change as against 2002-03. One city commentator has suggested that there is a 20% probability of

¹ For the industrial and commercial sectors this final price incorporates the impact of the climate change levy, introduced in April 2001. In the industrial sector the CCL adds around an average 6% to prices; in the commercial sector an average 8%. There is significant variation around this however. An industrial consumer paying CCL at the full rate (i.e. without an 80% discount attached to climate change agreements) will have faced something like an 11% increase in price.

wholesale prices falling to 1.5p/kWh as a result of a price war. We have not factored this in to our projections.

A2. The week ahead baseload price has recently been fluctuating around 1.6-1.8p/kWh. Forward prices further ahead are similarly low, and below corresponding period prices under the pool in 2000 (our best, even if not ideal, comparator). So all the reduction in price expected to be associated with NETA and divestment appears to be reflected in prices now. We make no allowance for any further reduction in the years ahead.

Fossil fuel prices

A3. Gas accounts for around 39% of generation and coal for around 31% (2000). So any assessment of prospects for electricity prices has to consider the price of fossil fuels used as inputs (and opportunities for generators to sell their gas back into the wholesale gas market provides further linkage). Our starting point for this is consideration of the oil price, to which gas has been closely linked.

A4. The oil price currently stands at around \$28 a barrel, having averaged around \$27 so far this year. OPEC has a target to keep its price in the range \$25-28/barrel (that is \$26.5-29.5 for 2-month Brent). But they cannot sustain these prices past the short-term, because they do not control long term supply or long term demand. Continuing high prices will stimulate non-OPEC supply and reduce oil demand growth. The broad consensus is that recent high prices cannot be sustained and a fall within the next 18 months or so towards the lower end of the OPEC range (if not lower) is likely.

A5. In our base case we assume that the oil price (2-month Brent) falls to \$22 by the end of 2002 and beyond that to \$16-18 in 2005. That is broadly consistent with the forward market.

A6. A continuing link between oil and gas prices suggests that as the oil price falls the gas price should follow it down, though with a lag of perhaps 6 months. This does not mean a return to the low price levels of 2000 and earlier. The Interconnector has linked UK gas prices to the Continent, where prices are, in turn, linked to oil and higher than previously experienced in the UK. We assume that the beach price of gas will fall a little. At the start of this month the UK spot price was 20.8p/therm – it has averaged around 22p/therm over the past year. The forward price is around 23.7p/therm (October 2001) and 22.4p/therm (October 2002) (it has varied around 19-23p/therm in recent weeks). We think it could turn out below that, but for our baseline we adopt a cautious assumption that the beach price averages 23p/therm in 2001, gradually falling to 18p/therm in 2005. We reflect that trend in our assumed price for gas fuel to generation plant.

A7. In 1998 average world coal prices on spot markets were 77p/GJ, some 20% below the average level in 1997. By the end of 2000, prices had reached £1.17 and had averaged 95p over the year as a whole. Most of the increase was a result of an increase in the world price in \$ terms, although depreciation

of sterling against the \$ also contributed to the increased sterling price. Coal has increased its share of generation over the last few months as gas prices have also increased. Gas may, however, have been the "price leader" with coal generators as followers.

A8. Higher gas and coal prices may not have fully fed through to electricity prices. Any further feed through, plus the impact of further expected fossil fuel price movement, ought to be reflected in forward prices. On a cautious view however, allowing for further feed through, we allow for up to a 5% increase in the cost of generation as compared with current forward prices. For industrial customers this might add up to 3.5% to final prices; for the commercial sector 3%; and the domestic sector 2.5%. But there may be little further impact and at the lower end of the range we allow for zero impact.

Distribution price controls

A9. Distribution price controls for the period April 2001 to April 2005 entail reductions in real terms of 3% per year. By 2005, therefore, the distribution element of prices should be down by about 11.5%. Since distribution costs account for between a quarter and a third of costs, this translates to between a 2.5% and 3.7% reduction in price.

Transmission price controls

A10. Transmission accounts for around 5% of costs. Transmission price controls for the period to April 2006 mean reductions in this element of costs of 1.5% a year. By 2005 that amounts to around a 0.3% reduction in electricity prices.

Energy Efficiency Commitments

A11. Under the Utilities Act obligations known as Energy Efficiency Commitments (EECs) may be placed on electricity and gas suppliers to secure specified levels of energy savings to be secured from consumers. Previously commitments – known as EESOPs – were set in terms of money to be spent, but under EECs the commitment is in terms of energy savings, thereby incentivising companies to design the most cost-effective consumer programmes.

A12. Provisional Conclusions on the EEC 2002-05 were published by DETR in November 2000. Further statutory consultation is due this summer, with the implementing Order to be laid in the Autumn. The Provisional Conclusions set the overall obligation at a level expected to cost the equivalent of £3.60 per customer, per fuel, per year. For electricity this would add around 1.2% to prices for domestic consumers (it could turn out a little higher or lower, depending on what companies' costs turn out to be, in practice, to meet the obligation as finally set later this year). We assume all the impact is on the domestic sector – the obligation itself arises on supplies to domestic consumers. Any supplier which attempted to pass an element of cost on to business could find itself undercut by another supplier.

A13. Whilst the EEC has the effect of increasing unit electricity prices, it should reduce fuel use and lead to net reductions in consumers' total bills.

Renewables

A14. The Government has announced objectives for the proportion of electricity generated from renewables to rise to 10% in 2010, subject to the cost to consumers being acceptable. This will be effected primarily by a Renewables Obligation which will place a legal requirement on all licensed electricity suppliers to supply a specified proportion of their electricity from renewable sources. There will, however, be a buy-out price whereby suppliers can meet their obligation by paying that specified price to OFGEM rather than securing renewable electricity. A buy out price of 3p/kWh has been proposed in consultation. The first obligation period is likely to run from October 2001 to March 2003.

A15. At that price the estimated cost to consumers would peak at around £872m in 2010-11. But for the lower level of obligation likely to be in effect for 2005, the estimated impact on price is an average increase around 2.1%, with industry paying an additional 3.1%, the commercial sector 2.2% and domestic consumers another 1%.

B. GAS: BASE CASE

Table 2: Projected gas price change to 2005, base case

	<i>Industry</i>	<i>Commercial and other</i>	<i>Domestic</i>
Current price p/therm²	26.0	37.5	50.0
% change (real) arising from:			
Fossil fuel prices – past increase	-	+ 3.0	+6.0
Fossil fuel prices – future changes	- 15.0	- 12.0	- 8.0
Efficiency improvement	-	- 2.0	- 3.0
Energy efficiency commitments	-	-	+ 1.2
TOTAL	- 15.0	- 11.0	- 3.8
Projected price p/therm	22.1	33.4	48.1

Fossil fuel prices – past increases

B1. Since May 2000 there has been a sharp increase in the spot and forward price of wholesale gas. A number of factors may have contributed to this, but the fundamental causal mechanism lies in the possibility of arbitrage across the Interconnector. Since its opening in October 1998 it has both exported and imported gas. As its utilisation grew it has meant that strong European gas prices, which followed the rise in oil prices, have dragged up the UK price.

B2. For industrial consumers most of this increase has fed through to final prices – in contracts renewed in October last year. Commercial consumers are supplied by contract and tariff and so only some of this increase will have fed through. For the domestic consumer, prices rose by an average around 5% in April 2001, perhaps rather less than a straight pass through of gas

² For the industrial and commercial sectors this final price incorporates the impact of the climate change levy, introduced in April 2001. In the industrial sector the CCL adds around 7-10% to prices; in the commercial sector an average around 12%. There is significant variation around this however. An industrial consumer paying CCL at the full rate (i.e. without an 80% discount attached to climate change agreements) will have faced something like a 18% increase in price.

costs would have implied. That probably does not reflect the full extent of the underlying rise in wholesale gas prices. So we could see further increases in April 2002 of the order of 6% (though the increase could be less if gas companies continue to absorb part of the increase. If this happens we are likely to see less of a reduction when gas costs fall).

Fossil fuel prices – future changes

B3. In our base case we see the beach price of gas falling by around 5p/therm to 2005. That would allow a reduction in the real price to final consumers – of the order of 4-15%.

B4. Against this, it is clear that the balance between UK productive capacity and demand will change significantly in the next few years. Europe is currently adequately supplied, but demand will continue rising. That and the rising marginal cost of incremental supplies will maintain upward pressure. But we assume in the base case that the effect of a declining oil price dominates in the short-medium term.

B5. The main driver for changes in gas prices will be the wholesale cost of gas. So long as there is insufficient momentum for liberalisation of the European gas market to take hold, a continued linking of gas prices to oil prices on the continent can be expected. This is clearly a focus of UK policy action, but in the period to 2005 we make no explicit allowance for any de-linking.

Efficiency improvement

B6. The scope for further efficiency gain is limited. Though more so for industrial and commercial customers than domestic, the UK has a competitive gas market already. OFGEM have previously considered that New Gas Trading Arrangements (NGTA), which formally came into place in October 1999, could lead to a 10% fall in wholesale gas prices. In the event that has not happened as the interconnector allowed the oil price link to be re-established.

B7. In the domestic sector, costs of transmission account for around 40% of final bills. OFGEM set a price control on Transco's transportation charges. In the year to March 2002 a 2% decline is set. Ofgem are due to publish their draft proposals on the 2002-07 price control on June 27, with final proposals due in September. We assume there are some further efficiency gains to be derived, (up to 3% by 2005) but they will be offset to some extent by increasing capital expenditure. There have been some suggestions, in the press, that OFGEM may seek bigger reduction than this – perhaps knocking another 2-3% off prices by 2005. We can't rule this out, but don't incorporate this – it would clearly be very contentious with Transco.

B8. Metering (5% of domestic bills) and other costs of supply (15%) are relatively small proportions of total costs. Some cost reduction through greater dual fuel uptake is possible, but not explicitly incorporated in our projections.

Energy Efficiency Commitments

B9. EECs apply to gas as well as to electricity. Assuming an obligation costing £3.60 per customer, per fuel, per year, gas prices for domestic consumers will rise by around 1.2 %. Again, it could turn out higher or lower, depending on what companies' costs turn out to be. Again, whilst the EEC has the effect of increasing unit gas prices, it should reduce fuel use and lead to net reductions in consumers' total bills.

C. ELECTRICITY: HIGH CASE

C1. Prospects for electricity are summarised in Table 3. Most of the identified influences here are the same as in the base case. The difference is in an upside risk attached to higher fossil fuel prices.

Table 3: Projected electricity price change to 2005, high case

	<i>Industry</i>	<i>Commercial and other</i>	<i>Domestic</i>
Current price p/kWh³	3.71		6.82
% change (real) arising from:			
NETA and plant divestment	-	-	-
Fossil fuel prices	+9.0	+8.0	+6.5
Distribution price controls	- 2.5	- 3.1	- 3.7
Transmission price controls	- 0.3	- 0.3	- 0.3
Energy Efficiency Commitment	-	-	+ 1.4
Renewables	+ 3.1	+ 2.2	+ 1.0
TOTAL	+9.3	+6.8	+4.9
Projected price p/kWh	4.06		7.15

Fossil fuel prices

C2. Our base case attempts to capture something like the market consensus on prospects for the oil price. But there is a risk that the price could remain higher than we have there assumed. In the longer-term, there are uncertainties about the level of reserves that will be discovered and

³ For the industrial and commercial sectors this final price incorporates the impact of the climate change levy.

exploited, and about the level of impact of high prices in restraining demand. Even focusing on prospects to 2005 it is possible, for example, that OPEC will continue to hold together well; supplies may be held in check and not fully respond to Iraqi export limits; that refining capacity (particularly in the US) might be hit by outtages.

C3. So in our high price case we assume that OPEC succeeds in keeping the price within its target range of \$25-28/barrel (that is \$26.5-29.5 for 2-month Brent). We assume a price (2-month Brent) maintained at \$27 a barrel, the same as the average so far this year.

C4. This also means higher gas prices than in the base. We assume the beach price holds constant at 23p/therm.

C5. The implication for electricity prices is that compared with 2000 the cost of generation may be up to 0.26p/kWh higher. This would be equivalent to an increase in the cost of generation of 14% compared with current forward prices. For industry this might mean an increase of 9% in final prices, for the commercial sector 8% and the domestic sector 6.5%.

Energy Efficiency Commitments

C6. We assume that the cost of the obligation turns out 20% higher than the expected level. This means a 1.4% increase in electricity prices for domestic consumers rather than 1.2%.

D. GAS: HIGH CASE

Table 4: Projected gas price change to 2005, high case

	<i>Industry</i>	<i>Commercial and other</i>	<i>Domestic</i>
Current price p/therm⁴	26.0	37.5	50.0
% change (real) arising from:			
Fossil fuel prices –past increase	-	+ 3.0	+ 6.0
Fossil fuel prices – future changes	-	-	-
Efficiency improvement	-	- 1.0	- 2.0
Energy efficiency Commitments	-	-	+ 1.4
TOTAL	0	+ 2.0	+ 5.4
Projected price p/therm	26.0	38.3	52.7

Fossil fuel prices – past increases

D1. We make the same allowance as in the base case.

Fossil fuel prices – future changes

D2. Oil prices stay at current levels. With little impact from liberalisation wholesale gas prices remain at current levels too. For final consumers this means that gas prices in 2005 are much the same as now in real terms. It is possible that continuing high oil prices could increase pressures for liberalisation in Europe, but we make no such explicit allowance in this scenario.

⁴ For the industrial and commercial sectors this final price incorporates the impact of the climate change levy, introduced in April 2001

Efficiency improvement

D3. We assume the same efficiency gains on transportation costs as in the base scenario.

Energy Efficiency Commitments

D4. We assume that the cost of the obligation turns out 20% higher than the expected level. This means a 1.4% increase in gas prices for domestic consumers rather than 1.2%.

020 7270 5456



MATRIX

Treasury Chambers, Parliament Street, London, SW1P 3AG

The Rt Hon Patricia Hewitt MP
Secretary of State
Department of Trade and Industry
1 Victoria Street
LONDON SW1H 0ET

OT
GN
SV
JTH
23 July 2001
file

Patricia

STATE AID: COAL INDUSTRY POST 2002

Thank you for copying me your letter to Jack Straw of 10 July.

2. On balance, I agree with your judgement that there is unfortunately no realistic prospect of ceasing German aid payments. We should emphasise our reluctance in accepting any post-2002 regime on coal, and insist upon the appropriate limiting conditions: we should refuse to accept a post-2002 regime unless all aid is capped and degressive; 2007 is the cut-off point, closure aid is linked to explicit closure dates; and there are tight conditions on the types of aid allowed (including a suitable import parity price assurance mechanism).

3. I remain concerned on a number of further issues.

020 7270 5456



4. First, as you point out, it is of vital importance that we ensure consistency with our wider policy of bearing down on state aids that undermine efficiency and the single market. This is an area where the Chancellor has a strong interest. Much of the proposed German coal aid is likely to be of at best limited value under objective economic criteria.

5. Second, there is a real risk that the Germans are pushing for a sufficiently loose regime to undermine entirely our ambitions for EU energy liberalisation. We must emphasise that an unrestricted subsidy of indigenous energy (a "socle") would be wholly unacceptable - for both state aid control and energy liberalisation reasons.

6. Third, I agree that the PIU report will inform whether and how the UK wishes to continue to burn coal. I was slightly surprised - however - to see a suggestion of continued UK subsidies beyond 2002. Even if it is possible to pay aid within the EU rules this does not, of itself, make it desirable on expenditure control, energy policy or environmental grounds. There is also our own credibility with the Commission to consider - we placed a heavy emphasis on the strictly temporary and time-limited nature of our current aid arrangements, when we sought state aids clearance.

020 7270 5456



7. So, for all these reasons, we need to be sure we minimise the harmful aspects of any post-2002 regime for coal state aid, and that we extract the maximum concrete concessions from the Germans in return - for example, real commitments on independent regulation and/or removing vertical integration in their energy markets.

8. I am copying this letter to the Prime Minister, Cabinet colleagues and to Sir Nigel Sheinwald and Sir Richard Wilson.

A handwritten signature in black ink, appearing to read "Andrew Smith".

ANDREW SMITH

*✓ Olinco
let's discuss +
next steps on
this.*

4 Dec 1999 *Faxed to OLC*
↳ vll checks from *2718*

From: Dr Sharima Rasanayagam *low carb*
Tel: 020 7270 1072 *econ*
Date: 19 July 2001

PRIME MINISTER

*I am content. But
surely this is a key
strategic decision
it should be subject to
a greater*

cc: Suma Chakrabarti* Brian Hackland*
Lindsay Bell* Geoffrey Norris*
Chris Wood* David North*
Helen Fleming* Oliver Jones*
James Quinault* (*by email only)
Richard Abel*

FILE

FUEL CELLS FOR POWER GENERATION AND VEHICLES

*degree of analysis about its
commercial
possibilities*

Fuel cells are one of a number of exciting options for new energy sources for both mobile and static uses. Following your meeting with the SMMT in March, Cabinet Office was asked for a paper on fuel cells: their importance; current Government action; and what more might be done. This is attached. There are currently a large number of small, unfocused Government initiatives on fuel cells. These need to be rationalised. Any fuel cell programme needs to be within a strategy which is outcome-driven (i.e. moving to zero-emission energy generation and transport rather than simply promoting the technology of the moment).

The main recommendations are set out overleaf – are you content?

Background

1. The attached paper has been prepared by the Cabinet Office and has broadly been agreed by the relevant departments (DTI, DTLR, DEFRA, OST, PIU). This note sets out the Cabinet Secretariat's view of where we need to go from here.
2. Fuel cells are one of a number of options for new energy sources for both mobile and static uses. However, they are not yet a commercial alternative to either the internal combustion engine or conventional power generation technologies. We do not expect a real market for fuel cells for private vehicle use until about 2020-30 (public transport uses will come sooner) and for energy generation about 2010. The drivers for the earlier development of FC technology are therefore environmental ones: to reduce emissions of pollutants at the point of generation; to help the shift to low carbon and renewable energy; and to enable a hydrogen economy in the long term.

Technology or outcome driven policy?

3. In the absence of the commercial market pull, the Government might intervene, for environmental reasons, to encourage the development of fuel cells. But, given the difficulty in picking technological winners, any such intervention should be outcome driven rather than technology driven. California's approach is a good example. The State's zero emission mandate (requiring that 10% of new cars emit zero emissions by 2003) has been a powerful market driver for the development of fuel cell vehicles. However, when the mandate was first issued, battery electric vehicles were the front runners for zero emission technology. If the California mandate had been limited to the technology of the day, the fuel cell option would have been overlooked.

Recommendations:

4. Section 5 in the attached paper makes recommendations for what more could be done. The important ones are:

- *DTI should be asked to carry out a review of current activity and to pull the disparate threads together.*
There are currently too many small Government initiatives designed to promote fuel cells in the UK. Details are set out in the attached paper. This may mean that overlaps and gaps are occurring. The joint DTLR/DTI consultation on Powering Future Vehicles and the PIU energy review project will result, by early 2002, in the development of strategies for meeting future energy and vehicle drivetrain technology needs. These outcome-driven strategies should provide a trigger for: reviewing the arrangements for fuel cells and other technologies; rationalising them as necessary; and developing more effective, focussed programmes.
- *DTI should be tasked to review the regulatory framework as it affects fuel cell technologies.*
Legislation has been key to encouraging the rapid development of fuel cell and other clean energy technologies in other countries. We need to assess whether we want to impose similar zero-emission targets for vehicles and power generation (though we already have a renewable energy target). We also need to assess whether such action would be better approached from a national or EU level.
- *Push for a UK produced fuel cell bus to start operating in the UK by 2004/5.*
Despite uncertainty over whether fuel cells will be the technology of choice for future private transport, there is wide consensus that fuel cell powered buses will start appearing on our streets in the next two years or so. There is a substantial UK-based and owned bus industry. DTLR/DTI have already agreed to fund a hybrid electric bus project this year and there could be an early win in producing a UK fuel cell bus. DTLR/DTI will identify the Government's particular interest in this in the autumn call for proposals under the Foresight Vehicle Programme.

In addition:

- *DTI should commission a report on the industrial policy implications of a shift to new and renewable energy sources.*
While preparing the attached report, we identified a major gap in the Government's knowledge of the state of UK industry in this area. We have lists of UK companies involved in fuel cell and supporting technology but have no real idea on how well placed they are to take a competitive edge in this area. We were also unable to pin down the effect of a shift to new and renewable energy sources such as fuel cells on conventional power generation, transport and infrastructure industries. This is a major piece of work where a consultant's report would helpfully feed into future industrial policy decisions.

5. If you are content with the recommendations, we will provide a letter for your office to send.

[signed]

SHARIMA RASANAYAGAM

Economic & Domestic Affairs Secretariat

FUEL CELLS FOR POWER GENERATION AND VEHICLES

1 Introduction/Context

1.1 This note responds to a Number 10 request for an information note on fuel cells: their importance; what the Government is doing to promote fuel cell technology in the UK; and what more can be done.

1.2 Fuel cells are one of a number of options for new energy sources for both mobile and static uses¹. They can potentially help the shift to low carbon and renewable energy (see par. 2.5) and help enable a hydrogen economy² in the long term. There are a number of other pieces of work which will be coming forward in the near future which will deal with fuel cells within the wider context of energy and transport needs. These include the PIU project on resource productivity and renewable energy and the one on energy policy. Subject to agreement on how it will interact with the wider energy review, the former study is due to produce a first draft report at the end of July. The study will take a long-term view of individual technologies and the associated infrastructure, including fuel cells, and will provide a view of the potential role of fuel cells in the low carbon energy systems of the future.

1.3 In addition, DTLR and DTI plan to issue a joint consultation on Powering Future Vehicles, in the autumn (see Annex D par. 10). This paper will look at the potential of new vehicle technologies, including fuel cells and hybrids, with the aim of producing a Government strategy by the end of 2001. The Government also supports R&D into fuel cells in a number of ways (see section 4). Options for further or new work in this area are discussed in section 5.

The Climate Change Context

1.4 The Intergovernmental Panel on Climate Change has suggested that global carbon emissions will need to be reduced by some 60-70% by 2050 if the world is to avoid dangerous levels of climate change. Within that, developed country emissions may need to reduce by as much as 90% in order to allow growth in developing countries. In the shorter term, the UK is likely to face tougher international emission reduction targets after 2010. However, UK emissions are projected to rise after 2010 as our nuclear power stations reach the end of their lives and emissions from transport increase.

Kyoto?

¹ Many consider them the most likely and potentially the most widely applicable of these options.

² Replacing the current carbon (fossil fuel) economy.

2 What are fuel cells? What are their benefits?

What is a fuel cell?

2.1 A fuel cell enables oxygen and hydrogen to react and produce an electrical current, which can be used as a power source. When pure hydrogen and oxygen are used the only by-products of the chemical reaction are water and heat.

2.2 A fuel cell functions in a similar manner to a battery cell: just like a battery cell, multiple fuel cells may be stacked in a series to increase the voltage of the system. However, unlike a battery, a fuel cell does not have a finite charge as long as supplies of fuel and oxygen are available.

2.3 There are several types of fuel cell, usually categorised according to their electrolyte and operating temperature (Annex A).

Uses of Fuel Cells

2.4 The principal potential markets for each technology type are shown in Annex A. Fuel cells be capable of replacing many forms of existing power generation: from batteries for a mobile phone to replacing the internal combustion engine in vehicles to large and small-scale power generation (including domestic combined heat and power, CHP).

What are the benefits?

2.5 Fuel cell technology is one of the tools that could deliver lower emissions of pollutants than conventional energy conversion technologies. It can help reduce emissions in both static power generation and for transport – both because of: the higher energy efficiencies available from the technologies facilitated by fuel cells, including CHP and electric drive trains in vehicles; and the potential to shift to renewable energy inputs to fuel cells. So fuel cells can offer zero ‘tail-pipe’ or local emissions at point of use, but will only be truly ‘clean’ in global terms if the fuel they use has been produced from renewable sources – such as wind power. Fuel cells therefore complement a potential shift to low carbon and renewable energy. They are quiet to operate and, because of their efficient, clean operation, will facilitate ‘embedded’ generation (smaller distributed power generation rather than large central power stations as at present), including domestic CHP.

3 The Current Position

Current Use/ Markets

3.1 While fuel cells have already been supplied into some specific sectors (e.g. the space programme), and demonstrations are either under way or planned in almost all market sectors, these do not in any way constitute significant market penetration. Initial market entry is widely expected to be in applications that can stand a higher cost of energy, such as portable applications and battery replacement.

3.2 However, there is a strong and growing market pull for fuel cells both for mobile and static uses, mostly driven by regulatory action by governments. For this reason, early markets are generally expected to be in North America:

- In California, 10% of new cars are required to emit zero emissions by 2003. This has proven a powerful market driver for the Solid Polymer Fuel Cell (SPFC) in particular. Even in Europe, some cities are restricting the use of cars in an attempt to reduce emissions and improve air quality. This is providing a strong market pull for public vehicles in general but particularly those with low emissions. Significant market penetration is expected initially in the bus sector where the application requirements are less demanding than in the car sector, and where the depot-based refuelling and maintenance regimes will be more suitable. Cars currently represent the most substantial potential market for fuel cells, but the cost targets are very demanding and will require significant investment decisions by car makers to commit the resources required for volume manufacturing and by Governments and fuel suppliers in developing a fuel distribution infrastructure. In the car market, most car makers are forecasting initial sales around 2004, but significant sales are not expected until 2010; by 2025, global sales could be as much as US\$8 billion per year³.
- Distributed power generation and CHP have a weaker market pull than in the automotive sectors but the cost and performance requirements are less demanding (i.e. the technology does not need to be miniaturised and made mobile). SPFC systems could find early commercial applications in these sectors and sales to the distributed power generation sector have already begun. At least one major UK utility, Eastern Power (owned by Texas Utilities), is developing a fuel-cell powered domestic CHP installation, for early introduction to the market. The high temperature fuel cells are not expected to win significant market penetration for some time. The German Government recently⁴ finalised a programme to support CHP generation, including fuel cell CHP plants – this consists of a voluntary agreement with the energy industries to reduce CO₂ emissions and bonus payments for electricity from CHP plants (varying from 3-5pf/kWh for conventional CHP units and 10pf/kWh for fuel cell units). Overall, the global stationary heat and power markets (including small scale domestic) are forecast to grow to around US\$3 billion per year by 2020.

³ Source: Draft ETSU report on the Technology status of Fuel cells – part of the DTI's New and Renewable Energy Programme.

⁴ Agreement signed 25 June 2001, supporting law to take effect by 1 Jan 2002.

The UK's Strengths

3.3 There is no doubt that the environmental imperative (particularly the Californian Zero Emissions Mandate) has led to an explosion of interest in fuel cells development work, concentrated in North America and Japan. However the UK has a strong research and industrial position in the essential basic technologies of catalysis, membrane electrode assemblies (MEAs) and reformer technology.

3.4 The DTI has encouraged UK firms to position themselves to take advantage of the emerging fuel cells industry. A list of fuel cell stack manufacturers worldwide and a list of UK companies and their interests is attached at Annex B. Ballard, the Canadian fuel cell manufacturer, is currently the world leader and has developed some of the most powerful fuel cell stacks. Ballard fuel cells are used by DaimlerChrysler, Ford, Honda and Nissan in their prototype fuel cell vehicles. Ballard also produces fuel cells for use in static power generation and has set up a number of partnerships with energy providers to develop the technology. Though it seems unlikely that UK manufacturers would be able to overtake Ballard in the production of fuel cell stacks, there may be opportunities for UK companies in fuel cell component manufacture and the supply chain.

3.5 A key objective of the DTI's Advanced Fuel Cell Programme (see also Annexes D and E) is to develop the abilities and improve the competitiveness of UK organisations working in this field. This includes encouraging links between academic researchers and commercial manufacturers. There are some good quality research teams in UK Universities and in one case this has led to an offshoot company (Alternative Power Sources or APS) which intends to become a manufacturer of fuel cell stacks.

3.6 Some UK companies are already competing well in this market. Johnson Matthey is involved in catalyst and MEA development and claims to supply more than half the global demand for platinum catalysts and catalysed electrodes for fuel cells⁵. It has entered into a number of commercial relationships including with Daimler Ballard Benz, arguably the current world leader in the development of PEM cell systems for transport applications. It is also active in the stationary fuel cell market producing catalysts, reformers and MEAs for small scale CHP generators. Johnson Matthey recently announced⁶ that they would establish a new fuel cells plant in Swindon with others planned for West Deptford and West Whiteford in the US. As for other UK companies, Rolls-Royce is also intending to become a fuel cell stack manufacturer for stationary power generation and others are involved in the development of fuel reforming systems – BG Technology and Wellman CJB, for example.

3.7 The UK also has a domestic bus manufacturing industry which is well placed to develop advanced fuel buses (including fuel cell and hybrid buses). DTLR and DTI are funding a hybrid bus project and will invite applications for a fuel cell bus project in the autumn (see par. 5.8).

Potential Barriers/the UK Market Failure

3.8 There are a number of potential barriers where Government intervention could help enable the development of fuel cell technology in the UK for both environmental and industrial policy reasons. These barriers are at different stages of the development cycle:

⁵ See www.matthey.com

⁶ Guardian 8/6/01 "Chemicals group invests more in fuel cell technology"

Basic Research

- Leading competitor nations such as the USA and Japan are spending much more than the UK (in both absolute and relative terms) on **Government funded R&D Programmes**, for example supporting work in National laboratories which is then transferred to the private sector. The European Commission is concerned at this disparity and has recently launched a major programme in this area (see Annex D par. 20). However there are fears that left to its own devices the European scheme could result in little if any involvement by UK firms. The DTI Advanced Fuel Cells Programme will provide a useful means for channelling the efforts of UK firms to ensure that they take full advantage of European and International opportunities for collaboration.

Early Development

- Fuel cells are not yet commercial. For potential users they represent an unknown quantity. They will be competing to replace conventional technologies in both transport and stationary power generation applications where expectations in terms of reliability, performance and cost are extremely high. This **risk and uncertainty** is a significant barrier to entry. It takes too long for companies to achieve commercial returns on the considerable investments needed. Continuing development in conventional alternatives will also pose a threat. In the transport sector, new hybrid solutions are beginning to come to market, incorporating downsized internal combustion engines and zero emission electric drives. These hybrids are beginning to be described as the technology of choice in the medium term and pose less technical risk, involving essentially an integration of existing technologies. However, there may still be medium term openings for fuel cells as auxiliary power units in vehicles, powering the increasing array of on-board electrical and electronic systems including air conditioning, steering and braking, fuel pumps and communications and infotainment devices.
- The above points to the need for **early demonstration projects**. There will not be widespread adoption of the technology before significant operating experience is gained through demonstration programmes (this applies to both transport and especially to stationary power generation). Manufacturers do not have the resources to fund such programmes without assistance. One particularly interesting possibility could be the development of a UK-produced fuel cell bus (see par. 5.8).

Mass Production

- A new energy generation technology needs **new supply chains**. In addition to the fuel cell stack and reformer systems, new suppliers of fuel storage and delivery systems are needed, both in-vehicle and in infrastructure, as well as power electronics, electric motors and drives. Hybrid vehicles will help create some of the components and subsystems, but the danger is that many of the critical systems technologies will be developed elsewhere. For example, the presence of Ballard as the world's leading fuel cell stack producer is giving rise to a cluster of new supply companies around its Vancouver plant. If the UK does not have these technology hubs, then it risks missing out on the supply side too. Both hybrid-electric and fuel cell technologies represent a major threat to existing supply chains manufacturing traditional powertrain and energy generation components. It is unlikely that very many traditional manufacturers will migrate their products into the new systems.

- As the car is transformed from its purely mechanical roots to a fuel cell-electric hybrid and as power generation becomes less directly dependent on fossil fuels, the availability of **skills** will become an increasingly important issue. Consideration must be given to the supply of a suitably qualified and multidisciplinary engineering base to develop and maintain vehicles of the future. This will include chemical, electrical, electronic and mechanical engineers as well as software specialists.

Infrastructure

- The creation of a **new fuel infrastructure** needs to take into account safety, storage and distribution issues. For example, with hydrogen as a fuel: although produced commercially already for industrial applications (including oil refining), much greater capacity would be required for widespread use both in transport and power generation⁷. It would need to be safely transported to distribution points (such as petrol stations) and stored safely before use in either domestic CHP units or vehicles. Petrol stations would need new storage facilities and new refuelling points. There are a number of options for this including: a dedicated pipeline network; the production of hydrogen from feeder fuels (natural gas or gasoline) or electrolysis of water at the refuelling point or on board the vehicle/within the CHP unit; or the use of natural gas pipelines to deliver hythane – a mixture of natural gas and hydrogen. However, substantial investment would be needed for any of these options.

Demand

- Regardless of the actions that Government and industry take to make new technologies attractive and safe, **consumers' take-up** depends on their willingness to adopt new vehicles and fuels, and domestic CHP. Consumers will need to be reassured over issues of cost, health and safety, performance and utility and other concerns, such as about the maintenance of new technologies.

Regulatory issues

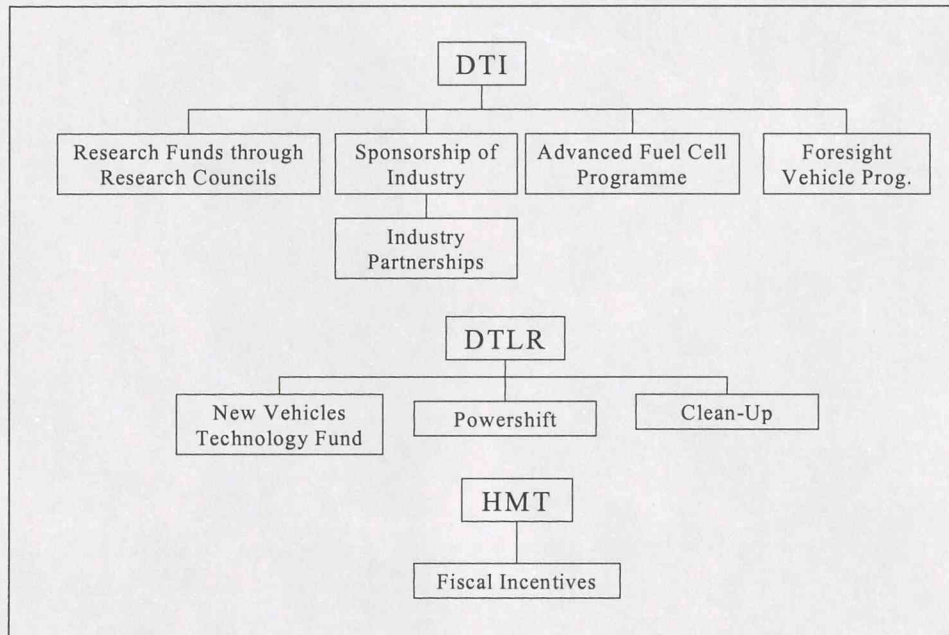
- Regulations are set for particular reasons, and to achieve particular goals. It is not intended that they should inhibit the introduction of new technologies. But it is vital to ensure that such technologies do not pose unacceptable risks to health, safety or the environment. Regulatory issues can range from vehicle standards, safety provisions associated with re-fuelling to planning requirements. It is important that they do not artificially impede new fuels and technologies, either by their presence or absence.

⁷ Though domestic CHP fuel cells are likely to use conventional natural gas initially rather than hydrogen.

4 Current UK Government Action

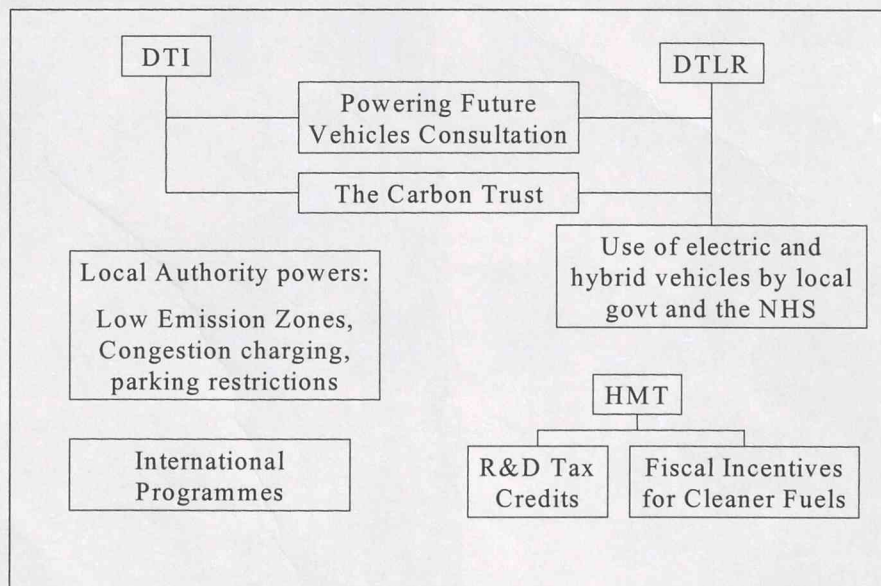
Already in place

4.1 There are already a number of Government initiatives to encourage the development of fuel cell technology in the UK, set out in the diagram below. Many of these focus on transport applications, though more work is now being done on static fuel cells. An international comparison of public funding levels is at Annex C. Details of the UK's initiatives are at Annex D.



Already announced – not yet in place

4.2 In addition there are a number of new initiatives that have been announced but are not yet in place. These are set out in the diagram below with details at Annex D.



5 What more can be done?

Rationalise Current UK Action

5.1 As illustrated above, a great deal of work is being done by various Government Departments and others to promote the development of fuel cell technology in the UK. However, the disparate nature of this work may mean that overlaps and gaps are occurring. At the very least the different initiatives such as the DTI's Advanced Fuel Cells Programme and Foresight Vehicle Programme and the DTLR's New Vehicle Technology Fund need to be brought closer together and work jointly to build on the individual successes of UK organisations such as Johnson Matthey and APS.

5.2 The joint DTLR/DTI consultation on Powering Future Vehicles and the PIU energy review project will result in the development of strategies by the end of 2001 for meeting future energy and vehicle drivetrain technology needs. There is a case for building on this work and initiating a review of the Government funding arrangements for fuel cells with a view to rationalising them if necessary and developing a focussed programme to encourage the development of this and other new and renewable energy technologies in the UK.

Set up further UK Government/Industry Partnerships

5.3 Building on the examples of the AIGT and the Californian Fuel Cell Partnership⁸ the Government could establish a partnership between auto manufacturers, energy suppliers, oil companies, fuel cell stack and component manufacturers as part of the New and Renewable Energy Programme.

Review the Regulatory Framework

5.4 In other countries (the US in particular), legislation has been key to encouraging the rapid development of fuel cell and other clean energy technologies. In the UK, local authorities already have the power to designate low emission zones and to encourage the use of cleaner vehicles through congestion charging or parking restrictions. There is a question of whether the UK would want, at a national level, to impose targets for the sale of zero emission vehicles similar to those in California. It may be that such action may fall foul of EU competition rules and would be better approached from an EU level. From the transport point of view this could be done through a UK push for a Euro 5 emissions standard⁹ that tended towards low or zero emission vehicles. There is therefore a case for reviewing the options available at a national and European level as part of the review of the current UK fuel cell initiatives.

Other Action at European and Wider Level

5.5 Depending on discussions between UK and German Government officials, the UK could become involved in the German Transport Energy Strategy programme, the objective of which is to create European consensus on the optimal fuel and a strategy for setting up a European infrastructure.

⁸ A collaboration between auto manufacturers, oil companies, fuel cell stack and component manufacturers and the State of California. The CFCEP is intending to test about 70 fuel cell powered vehicles under real driving conditions in California before the end of 2003.

⁹ European emissions limits for new vehicles: Euro 4 comes into effect on 1 Jan 2006

5.6 There are also opportunities for the UK to take a leading role in promoting new and renewable energy sources, including fuel cells, as part of the EU sustainability agenda.

5.7 DTI should continue to monitor international programmes at the European and wider international level to ensure UK industry is able to benefit from them.

Early win – a UK Fuel Cell Bus

5.8 An early win could be the development of a UK-produced fuel cell bus. It is likely that new vehicle technologies will develop first in niche markets. This will be particularly true where a new fuel and new re-fuelling infrastructure are needed, such as for a hydrogen fuel cell. Depot based vehicles which return regularly to a single site – such as buses – offer good potential as new technology pioneers – and their zero tailpipe emissions are also particularly valuable in polluted urban areas. There is also a substantial UK-based and owned bus industry. DTLR/DTI have therefore agreed to fund a **hybrid bus** project under the Foresight Vehicle Programme this year; and to identify the Government's particular interest in a **fuel cell bus** in the next Call for Proposals in the autumn.

CABINET OFFICE
July 2001

Annex A. Main types of Fuel Cell

Type	Electrolyte	Operating Temperature (°C)	Development Status	Applications
Solid polymer fuel cell (SPFC), also known as proton exchange membrane fuel cell (PEM)	Sulphonic acid incorporated into a solid polymer membrane	50-90	250kW CHP systems and several cars and buses being demonstrated, but not yet commercial. Most car companies are investing in this technology.	Commercial and residential CHP, distributed power, portable power, transport
Solid oxide fuel cells (SOFC)	A ceramic, solid oxide, zirconia.	700-1000	Tubular systems available for demonstration; planar technology still under development	Commercial and residential CHP, power generation, ship propulsion, trains
Intermediate temperature SOFC (IT-SOFC)	A ceramic, solid oxide, ceria-gadolinia.	650-750	Much fundamental research still required	Commercial and residential CHP, power generation, ship propulsion, trains
Molten carbonate fuel cell (MCFC)	Molten lithium carbonate	630-650	250kW systems being demonstrated, also previously 2MW, but further R&D needed	CHP, power generation, ship propulsion, trains
Phosphoric acid fuel cell (PAFC)	Phosphoric acid	190-210	200kW systems offered for sale, but not commercially competitive in the UK	CHP, power generation
Alkaline fuel cell (AFC)	Potassium hydroxide	50-200	Fully developed for space systems. Transport systems available for initial demonstrations	Space, transport
Direct methanol fuel cell (DMFC)	Sulphonic acid incorporated into a solid polymer membrane or sulphuric acid solution	50-110	Still at R&D stage with much fundamental research still required	Portable power, possibly transport

Annex B: Fuel Cell manufacturers and UK Companies

Table 1: fuel cell developers/manufacturers

COMPANY	COUNTRY	TYPE OF FUEL CELL	STACK POWER (kW)
Ballard	Canada	SPFC	70 (transport) 250 (stationary)
Nuvera	Italy	SPFC	30
Advanced Power Sources	UK	SPFC	2-5
H-Power	USA	SPFC	10
Energy Partners	USA	SPFC	10
General Motors	USA	SPFC	70
Plug Power	USA	SPFC	50
International Fuel Cells	USA	PAFC SPFC	200 50
Fuji Electric	Japan	PAFC	50
ERC/MTU(Daimler-Chrysler)	USA/Germany	MCFC	280
Hitachi	Japan	MCFC	250
Siemens-Westinghouse	Germany/USA	SOFC	200
Ceramic Fuel Cells	Australia	SOFC	25
Rolls Royce	UK	SOFC	5
Sulzer	Switzerland	SOFC	1.5
Zetek	UK/Belgium	AFC	5

Table 2: list of UK companies

COMPANY	INTEREST IN FUEL CELL TECHNOLOGY
ABB Alstom Power	Opportunities for supply of balance of plant, e.g. turbines, power control and conditioning
AEA Technology	Exploitation of advanced materials, catalyst and battery technology, mainly related to fuel processing for SPFC systems.
Advanced Power Sources	Development and exploitation of advanced fuel cell stack designs for stationary power, transport and portable power applications. Building on fundamental research work at Loughborough University.
Alstom	Interest derives from electric power control and drive systems. Joint venture with Ballard Generation Systems for stationary power, but also interested in commercialising advanced electric drive systems for fuel cell vehicles.
Avesta Sheffield	Exploitation of materials technology for SOFCs.
BG plc (now Advantica Technologies)	Has a strong commercial interest as an energy/fuel supplier for both stationary power and potentially for transport. Also wishes to identify commercialisation routes for its fuel processing catalyst technology. Working with Alstom on SPFC systems.
British Nuclear Fuels	Wishes to exploit its advanced materials technology relevant to SOFCs.
CERAM Research	Wishes to exploit its advanced materials technology relevant to SOFCs.
Wellman CJB	Has a background as defence contractor, but is keen to exploit expertise as a developer of fuel processing systems and as a potential integrator of fuel cell systems. Focussing on SPFC systems for transport and stationary applications.
TWR Worthing Technical Centre	Intends to work with partners to design, build and evaluate fuel cell LCVs.
DERA	A defence contractor that wishes to develop and exploit its fuel cells knowledge for civil applications.
Driver Technology Ltd	Wishes to identify and exploit potential market opportunities for its advanced air compressors in fuel cell systems.
EA Technology	Wishes to exploit its expertise in electric power technology and design of electric vehicles. Has recently acquired a company develop electric drive and power conditioning systems (Wavedriver) from PowerGen.
ICI	Wishes to exploit its electrochemical coating expertise in the manufacture of components for SPFC stacks
IMI Marston	They are a developer of advanced heat exchangers and wish to exploit the technology as substrates for compact fuel processors in low-volume, early markets.
Intensys	Offers consultancy in fuel cell system design and modelling.
Johnson Matthey	Wishes to develop and exploit its catalysts and advanced materials technology as a supplier to producers of fuel cell and fuel processors.
LDV	The UK's leading van maker, it wishes to prepare itself for the potential commercialisation of fuel cell fleet vehicles.

Leyland Product Developments Ltd	A contract design engineering company, it aims to help the major vehicle makers with the development of advanced cars, vans and buses.
Marconi Caswell Ltd	Wishes to develop and exploit its advanced materials technology in conjunction with developers of fuel processors.
MIRA	A contract design engineering and testing company, it aims to help the major vehicle makers with the development of advanced cars, vans and buses.
National Power Innogy	In addition to the commercialisation of its Regenesys electrochemical system for energy storage, Innogy wishes to develop UK SPFC stacks for small CHP applications.
Northern Technologies	Working with BNFL to commercialise advanced design ideas for early niche markets for fuel cells.
PowerGen	Mainly wishing to assess the threats and opportunities to its core business as a power utility, PowerGen also has expertise in power conditioning, control systems and interfacing with the grid that would be important in the future implementation of fuel cells for stationary power.
Robert Wright and Sons	A UK bus builder that is committed to developing advanced vehicle designs and bringing them to market. It wishes to understand fuel cell technology and would like to develop a fully commercial fuel cell bus. (note: this has been put on hold for the time being)
Rolls-Royce	Has strong interests in developing SOFC fuel cells and provision of balance of plant for fuel cell power systems in stationary power and marine applications.
Scottish and Southern Energy	This UK power utility has one covers remote areas with especially wide dispersion of customers. It is therefore interested in small and medium-sized fuel cell systems to reinforce the distribution network and provide back-up supplies, with a minimum of maintenance.
Scottish Power	Wishes to assess the threats and opportunities to its core business as a power utility,
Tioxide Specialities	Exploitation of materials technology for SOFCs.
Vickers Shipbuilding and Engineering	A defence contractor, it is interested in the potential application of fuel cell systems in marine applications.
Woking Borough Council	This local authority wishes to assess the likely operational benefits of fuel cells and promote an enhanced environmental image for itself.
Zetek	This UK/Belgian company believes that there are early market opportunities for fuel cells produced by inexpensive production processes. By conducting early demonstrations of vehicles and other systems, it hopes to raise public awareness of the potential benefits of fuel cells and so stimulate these early markets.

Annex C: International comparisons on funding levels

Country	Public expenditure on fuel cells (£million per annum) ¹⁰	Notes
UK	3.6	Includes EPSRC and DTI Fuel Cell funding. Does not include Foresight Vehicle Programme (£80 million since 1997, including work on fuel cells) or New Vehicles Technology fund (£9m over 3 years including for fuel cells)
Germany	5.0	The Federal Government has recently approved additional funding for new energy technologies for the three year period 2001-2003, of which 60 MEUR (3 year period) will be reserved for the development and demonstration of fuel cell technologies.
France	13.5	As of the end of November 2000 France was supporting 28 projects totalling 56.1 MEUR of which 22 MEUR was public support.
The Netherlands	4.9	Annual spending between 1992-1996. The Dutch discontinued their national fuel cell programme in 1999
Spain	1.8	A 15 MEUR 5 year programme for the development of the MCFC is being carried out by Spanish utilities.
Italy	3.1	Fuel cell R&D has been carried out since 1987 with an annual budget of around 5 MEUR, with both government and industry contributing. A new research programme with a budget of 7 MEUR over the next 3 years was agreed by the Italian Government in November 2000.
Denmark	2.1	The Danish national programme aims to develop planar SOFC stacks for co-generation.
Sweden	0.6	The programme has two elements – University research and an industry programme (to which industry contributes).
Switzerland	0.6	
European Commission	18.1	Funding already exceeds 59 MEUR in the Fifth Framework Programme (1999 – 2002) and it is probable that a similar amount will be allocated for the two remaining years of the programme
USA	70.4	[to be confirmed]

¹⁰ Exchange rates: 1.63 Euro to pound; 1.42 US\$ to pound

Annex D: Current UK Government Action

Already in place

Research Councils

1. The Engineering and Physical Sciences Research Council (EPSRC) supports the work of a number of good quality research teams in UK Universities with world class expertise in key areas such as materials and catalysis. EPSRC has supported fuel cells research under individual programmes, RNET (Renewable and New Energy Technologies) programmes and through responsive mode in areas such as electrochemistry and materials. It is difficult to capture the data but it is estimated that fuel cell research over the last five years amounted to £6-8m. The total awards for the two programmes over their lifetime are £13.2m for ESR21 and £7.4m for RNET (with a further round to go estimated at £2m).

Companies

2. Some major global energy companies (e.g. Shell, BP) have significant R&D capabilities in the UK. However, most research efforts by vehicle manufacturers are carried out overseas.

Industry partnerships

3. The Automotive Innovation and Growth Team (AIGT - see Annex F for members) is the first of several IGTs in key sectors to be initiated by the DTI. It represents a new form of Government/industry partnership to help formulate and deliver policy to enhance the short, medium and long term competitiveness of the UK automotive sector. Under the chairmanship of Sir Ian Gibson, its primary role is to pick out new trends and emerging factors on which competitiveness turns. At its first meeting in May 2001 it agreed to set up four project teams to take the work forward: Distribution, competition, consumer; Design, development and manufacturing; Environment; and Technology. The Environment and Technology groups are likely to take an interest in the development of fuel cells and alternative fuels more generally.

DTI Fuel Cell Programme

4. This programme - part of the DTI New and Renewable Energy Programme - started in 1992, initially focusing on SOFC and PEMFC but opened to all fuel cell types more recently. As of the end of July 2000 the programme had supported 138 projects with a total value of about £80m. Expenditure is of the order of £2m per annum. A spreadsheet listing current projects and funding levels is attached at Annex E.

Foresight Vehicle Programme

5. This is a DTI-led programme. It is the UK's national automotive technology programme with additional funding from EPSRC, DTLR and the Highways Agency. It aims to stimulate UK manufacturers and component suppliers to collaborate with the knowledge base to develop and demonstrate market driven enabling technologies for future motor vehicles. Priority objectives include: world-class manufacturing competitiveness, improved safety, reduced environmental impacts, improved energy efficiency and congestion alleviation. The programme operates on a long-term timescale up to 2020, supporting over £80m of research since 1997. Departments

have recently announced new funding of £7.5m DM, £7.5m EPSRC and £2.25m DTLR over the next 3 years to be matched by industry. Overall, some 10-15% of the funds have been allocated to projects under the theme of alternative vehicle propulsion. This includes support for technologies relating to fuel cell electric and hybrid electric powertrain systems with a view to creating new supply chains in this emerging area. However, fuel cell and reformer technologies per se are excluded as these are covered in the Fuel Cell programme.

New Vehicle Technologies Fund

6. This is a DTLR programme. In November 2000, the Deputy Prime Minister announced £9m funding over three years to support the early introduction of technologies such as fuel cell and hybrid vehicles that offer significant environmental benefits over conventional vehicles. The final structure of the programme will be influenced by the outcome of the DTLR/DTI *Powering Future Vehicles* consultation over the summer. The Fund is already being used to support the London Chrysler-Daimler fuel cell bus trial due to begin in 2003¹¹ (£0.75 million), and the other bus initiatives described below. Other possible uses could include relevant research, and possibly to provide grants towards the purchase of vehicles.

Powershift/Clean Up

7. These are DTLR programmes aimed at promoting alternatively fuelled new vehicles (Powershift – which currently grant-supports gas, hybrid and battery electric vehicles but it could also be used to promote fuel cell vehicles in future) and retrofitting emission abatement technology to older vehicles (Clean Up), by part funding the additional conversion costs. The programmes each have £30m over the next three years and are managed by the Energy Savings Trust.

Fiscal Incentives

8. Under the new graduated VED regime, covering cars registered after 1 March 2001, sets VED at between £90 and £160 a year, depending on CO₂/km. Fuel cell vehicles – which have the potential to produce low levels of CO₂ and would use alternative fuels – would benefit from both the new VED structure, and low duty rates on alternative fuels. In addition, one third of new cars are bought as company cars so it is important to influence these purchases. The company car tax regime contains the same set of incentives but they are potentially of greater value as they are related to the purchase price of the vehicle. Electric vehicles are exempt from VED.

9. An additional fiscal incentive which helps encourage the development of cleaner vehicles and technologies is the system of R&D tax credits for companies – currently for SMEs only.

Already announced – not yet in place

Powering Future Vehicles

10. The planned joint DTLR/DTI *Powering Future Vehicles* consultation paper will look at the potential for new vehicle technologies, such as fuel cells and hybrids to

¹¹ As announced by the Mayor of London earlier this year.

help deliver a low carbon transport system; discuss the appropriate Government action to facilitate the development and take-up of these technologies; and discuss the action to ensure maximum UK industry engagement in the technologies. The plan is to issue the consultation document before the Summer Recess if possible, and to publish a Government strategy by the end of the year.

The Carbon Trust

11. The CT proposes to work with existing players, including DTI, DTLR, fuel cell technologists, systems developers and leading potential users (both in transport, mobile and static applications) to identify and appropriately design demonstration applications which can be supported, monitored and promoted. It will: (a) raise awareness of the potential for fuel cells; (b) establish what further development work would be needed to ensure fuel cell technologies are suitable for widespread UK applications; and (c) propose for discussion what kind of policy and support instruments will be required to create the drivers and infrastructure framework to ensure fuel cells can achieve their full potential in UK markets.

Low Emission Zones

12. Several local authorities have expressed interest in excluding the most polluting vehicles from polluted areas, such as air quality management areas, through the use of low emission zones. In London, for example, the GLA and many of the boroughs are investigating this idea as a way to improve the capital's air quality.

13. Local authorities have the powers to establish LEZs under the Environment Act 1995 through the use of Traffic Regulation Orders (TROs). These are the same powers authorities use when pedestrianising high streets, or restricting access along certain streets to buses and taxis.

Local Authorities

14. Local authorities can also take other steps to encourage low emission vehicles. For example, Westminster allows electric vehicles to park for free. And under the Mayor's congestion charging proposals, owners of alternatively fuelled vehicles may benefit from significantly reduced or zero charges

Use of electric and hybrid vehicles by local government and the NHS

15. DTLR in conjunction with the Local Government Association will launch a review over the summer of the scope for local authorities and others in the public sector to use electric or hybrid vehicles; similarly a review of the scope in the health sector, in conjunction with the Department of Health and the National Health Executive.

16. Electric vehicles are well suited to the requirements of many local government and health sector tasks involving daily mileages of 50 miles or less, such as parking enforcement, Trading Standards Officers, or health visitors. There would be useful environmental benefits if more local authorities and health authorities used electric vehicles as they are quiet, and have zero tailpipe emissions, helping to bring quieter

and healthier streets. Where renewably-sourced electricity is used for recharging (available through many 'green electricity' tariffs), electric vehicles deliver zero *global* as well as zero local emissions.

17. The review will identify those applications for which electric and hybrid vehicles are well suited and provide clear, unbiased information on the pros and cons of operating them - including case studies - so that organisations can make more informed purchasing decisions

R&D Tax Credits

18. The Government is publishing a consultation document on proposals for a new tax credit to encourage R&D and innovation among larger firms.

Fiscal Incentives for cleaner alternative fuels

19. In Budget 2000, the Chancellor announced duty reductions on the viable alternative fuels currently available that offer significant local air quality or greenhouse gas benefits - road fuel gases and biodiesel. In addition, to stimulate interest in developing alternative fuels that offer significant local air quality or greenhouse gas benefits in the medium and longer term, the Chancellor announced that he would support pilot projects involving bioethanol, biogas and the fuel cell favourites hydrogen and methanol through time-limited duty reductions or exemptions. Industry will be invited to propose potential pilot projects shortly.

Current international programmes

20. The European Commission has supported research, development and demonstration of fuel cells since 1988. Funding has increased from 8MEUR for the period 1988 - 1992 to 58 MEUR in the Fourth Framework Programme (1994 - 1998). Funding already exceeds 59 MEUR in the Fifth Framework Programme (1999 - 2002) and it is probable that a similar amount will be allocated for the two remaining years of the programme. The Commission issued a 10 year fuel cell strategy in Europe in 1995 which was revised in 1998. All types of fuel cells are potentially eligible for funding provided that they offer the potential for applications of socio-economic interest. In addition, fuel cells have served as a pilot for the Commission's objective of promoting a European Research Area (ERA). This aims to improve the co-ordination and increase the cost effectiveness of the research effort in this sector by ensuring complementarity between the industrial, national and European Programmes.

21. Though not specifically targeted at fuel cell vehicles, the European emission limits for new vehicles have steadily ratcheted down the levels of regulated pollutants¹² from all vehicles. In addition, European environment ministers' "Co2 from Cars Strategy" sets a target of reducing average carbon dioxide emissions from new cars to 120 grams of carbon dioxide per kilometre by 2005, or 2010 at the latest. The main elements of this strategy are the voluntary agreements between the European Commission and European, Japanese and Korean car manufacturers. These commit

¹² Carbon monoxide, hydrocarbons, oxides of nitrogen (NOx) and particulates (PM).

manufacturers to reduce the average CO2 emissions from new cars in Europe to 140g/km by 2008 (European manufacturers) and 2009 (Japanese and Korean manufacturers). This represents an overall cut of around 25% on 1995 levels. Other elements of the strategy include a fuel economy labelling scheme and a reference framework for fiscal incentives. A number of fuel saving technologies are likely to be used to enable manufacturers to meet the agreements, including direct injection gasoline and direct injection diesel engines, weight reduction, reduced rolling resistance and aerodynamic improvements.

22. The International Energy Agency (IEA) has an Implementing Agreement on Advanced Fuel Cells (and another one on Hydrogen). IEA Implementing Agreements provide a legal framework for international collaborative R&D but do not represent an additional source of funds. They usually operate on a task-shared basis, which means that members contribute work which is funded under their national programmes. The alternative is a cost-shared basis but this is usually reserved for tasks such as the provision of secretarial services. With that exception, the Advanced Fuel Cells Implementing Agreement operates on a task shared basis. There are four current and one proposed tasks of which the UK currently participates in two. The Agreement runs until December 2003 when it could be renewed (see Annex G for details).

German Transport Environment Strategy (TES)

23. A high level German delegation visited the UK on 6 April to make a presentation on their Transport Environment Strategy (TES, a partnership between German Govt, vehicle manufacturers and oil companies) on which they are seeking the support of other Member States and the European Commission. The strategy seeks to facilitate the transition to hydrogen as a fuel, whether for use in internal combustion engines (as favoured by BMW) or for fuel cells. DTLR and DTI have suggested that they send further details and the action is currently with them.

Annex F: AIGT Membership

Sir Ian Gibson, Chairman
Jonathan Browning, Jaguar
Mike Baunton, Perkins Engines
Richard Clowes, GKN Sankey
Professor Dan Jones, Cardiff Business School
Hugh Chambers, Prodrive
Sir Ken Jackson, AEEU
Graham Smith, Toyota
Tod Evans, Peugeot
John Cushnaghan, Nissan
Alex Stephenson, Advantage West Midlands
Mike O'Shea, DTI
Willy Rickett, DTLR
Harry Bush, HMT

Annex G: International Energy Agency Advanced Fuel Cells Implementing Agreement

- Task XI: Polymer Electrolyte Fuel Cells (Total budget: 1999-2001, ~450 person months)
 - Collaborative research and development to reduce the cost and improve the performance of PEFCs, Direct Methanol Fuel Cells (DMFCs) and corresponding fuel cell systems. This includes research into new materials for fuel cell stacks and fuel processors, development of modelling techniques and investigation of novel stack and system designs.
- Task XII: Fuel Cell Systems for Stationary Applications (Total budget: 1999-2003, ~200 person months)
 - Collaborative economic and technical studies to understand better how stationary fuel cell systems may be deployed in energy systems. This work will focus on two applications: PEFC in on-site applications (<500 kW) and high temperature fuel cells alone or in combination with a gas turbine (0.5-2MW and larger).
- Task XIII: Solid Oxide Fuel Cells (Total budget: 1999-2003, ?? person months)
 - A series of annual workshops and associated meetings aimed at improving the performance and reducing the cost of SOFC systems, each addressing different research and development topics. The topics for the four workshops will be low cost manufacture and design, low temperature operation, SOFC systems and modelling.
- Task XIV: Molten Carbonate Fuel Cells towards demonstration (Total budget: 1999-2003, ~400 person months)
 - Collaborative research and development to assist the commercialisation of MCFC systems. This will include research aimed at improving stack performance and reducing costs, development and standardisation of test procedures and comparison of operational experience with MCFC systems.
- Task XV: Fuel Cell Systems for Transportation (Proposed: 2001-2003)
 - The objective of this Task will be to discuss and co-ordinate activities concerning different transportation fuel cell systems and fuels for them, and fuel cells for different transportation applications. Work programme is still under development.

Participants:

Country	Task XI	Task XII	Task XIII	Task XIV	Task XV*
Australia		●	●		
Canada	●		●		●
France		●	●		
Germany	●	●	●	●	●
Italy	●	●		●	●
Japan	●	●	●	●	●
Korea	●			●	
Netherlands	●	●	●	●	●
Norway		●			
Sweden	●	●	●		●
Switzerland			●		●
UK	●		●		
United States	●		●	●	●

*provisional participants

Annex E: 'LIVE' FUEL CELLS PROJECTS AND PROSPECTS AS AT 16.05.01						
Ref	Title	Lead contractor	Description	Project Cost	DTI contrib	% DTI
F/02/154	SPFC prototype system	Johnson Matthey	Design, construct and evaluate a prototype CHP system suitable for small-scale residential and commercial applications.	1627900	649276	39.88
F/02/155	Routes to a Commercially Viable PEM Fuel Cell Stack	National Power plc	Design, construct and evaluate a 10kWe SPFC stack.	926347	440340	47.54
F/03/175	Woking Park Fuel Cell CHP Project	Woking Borough Council	Design and install a 200kW PAFC CHP system and compare performance with conventional systems.	1596029	217215	13.61
F/03/178	Monitoring Proposal for the WBC Phosphoric Acid Fuel Cell CHP Installation	Advantica	Monitor Woking's PAFC CHP installation and its performance.	93510	93510	100.00
F/01/179	Advanced manufacture, scale up, and performance improvement for the IP-SOFC	Rolls Royce SRC	Produce a facility for fabricating MEA modules to the necessary levels of quality and quantity.	599244	240000	40.05
F/02/181	Long Term Testing of Integrated Packed Bed Methanol Fuel Processor	Wellman CJB Limited	Evaluate the long-term performance of a methanol reformer and gas clean-up unit.	200078	80031	40.00
F/02/183	Fuel Quality Tolerance of Catalytic Components in a Fuel Cell System	Johnson Matthey	Investigate fuel composition and its effect on the performance of an SPFC system.	186566	93283	50.00
F/01/194	Planar SOFC technology: stack cost design and development for lower cost manufacturability	Alstom	Develop and SOFC stack based on anode-supported cells, ultimately for integration into commercial SOFC based generating plant.	3661000	264400	7.22
F/01/195	Systems development for planar SOFC based power plant	Alstom	Design and construct and evaluate a 5kW SOFC stack based on anode supported cells and design and model a conceptual 20kW integrated system	1317500	146900	11.15
F/01/197	Scale up of the IP-SOFC to multi-tens of kw levels	Rolls Royce	Design, build and evaluate a 20kW MF-SOFC stack.	3699200	825000	22.30
F/02/206	Fuel Cell Powered LCV Design Study	Daewoo Motor Company	Develop a light commercial vehicle (LCV) design concept and evaluate technically, environmentally, economically and commercially.	165000	83000	50.30
F/02/208/0	Participation in IEA PEMFC Annex	Loughborough University	Participation PEMFC Annex of the IEA's Advanced Fuel Cells Implementing Agreement.	2700910	6000	0.22
F/02/208/1	Participation in IEA PEMFC Annex	DERA	""	475840	5840	1.23
F/02/208/2	Participation in IEA PEMFC Annex	Newcastle Univ	""	344315	5060	1.47
F/02/208/3	Participation in IEA PEMFC Annex	Surrey Univ	""	302659	4490	1.48
F/02/208/4	Participation in IEA PEMFC Annex	Southampton Univ	""	164153	6250	3.81
F/01/209	Participation in IEA SOFC Annex XIII	BG plc	Participate in SOFC Annex of the IEA's Advanced Fuel Cells Implementing Agreement.	4100000	6456	0.16
F/01/209/1	Participation in IEA SOFC Annex XIII	Keele Univ	""	484930	5930	1.22
F/01/209/2	Participation in IEA SOFC Annex XIII	ICSTM	""	194269	5580	2.87
F/03/215	Performance assessment of a hydrogen powered alkaline fuel cell vehicle and refuelling system	Advantica (Westminster)	Assess performance of a (Westminster ZevCo-Supplied) AFC LDV.	57830	57830	100.00
F/02/216	Lightweight, high power density fuel cell stack	APS	Design, construct and evaluate a compact, lightweight SPFC stack, using carbonaceous bi-polar plates.	99000	49500	50.00
F/03/232	Update on the status of DMFCs	DERA	Review development status of DMFC technology.	25900	25900	100.00
F/03/238	Redox Energy Storage Technology	E-fuel Technology Limited	Develop and evaluate a Redox energy storage system.	544752	272376	50.00
				22839450	3584167	15.69
PROSPECTS						
F/03/218	Hydrogen safety for public refuelling of hydrogen fuel cell electric vehicles	Shell Research	Evaluate technologies and assess safety issues relating to point of sale supply of hydrogen.	381560	149190	39.10
F/01/222	Sulphur poisoning of the active material used in SOFCs	Rolls Royce SRC	Investigate the issues surrounding sulphur poisoning and carbon deposition in an IP-SOFC when using hydrocarbon fuels.	288000	161000	55.90

F/03/235	Implementation of stationary power small scale in the UK	SSE	Assess the implementation issue for domestic and small-scale stationary power generation and CHP fuel cells applications.	110952	82602	74.99
F/03/240	IEA H2 Exec Comm	OFF - DERA	UK representation on IEA Hydrogen Executive Committee	10000	10000	100.00
F/02/241	Fuel cells in domestic buildings	Advantica	Field-trial a prototype fuel cell unit in a UK home.	180000	90000	50.00
F/01/242	Development of a 50kW pressurised SOFC stack design for incorporation within a 1MW SOFC/gas turbine hybrid demonstrator	Rolls-Royce	Design, develop and construct a 50kW pressurised stack as required for incorporation within a 1MW hybrid combined cycle demonstrator.	15000000	7500000	50.00
F/03/243	Advanced MCFC catalysts development	Advantica	Develop and evaluate catalysts as part of an EC MCFC development programme.	7862000	191000	2.43
F/02/244	Compact WGS reactor development	Advantica	Design a compact WGS reactor and catalyst for stationary PEMFC systems.	210000	105000	50.00
F/02/245	Compact fuel processor	Advantica	Build and evaluate a prototype reformer capable of being integrated into a complete system.	430000	215000	50.00
F/01/246	An integrated fuel cell/heat pump system	PowerGen	Design, construct and test an integrated fuel cell/heat pump system suitable for the domestic sector.	250000	170000	68.00
F/02/247	Novel carbon fibre based high power density PEM fuel cells	Zetek Power	Optimise the materials and methods of production for a novel high power density fibre-based PEMFC.	1018000	509000	50.00
F/02/248	Investigation into MEA recycling and re-use	Johnson Matthey	Investigate the chemistry, economic and environmental issues involved in MEA recycling and re-use.	297005	118802	40.00
F/02/250	Construction, development and field trials of fuel cell powered vans	LPDL	Design, build (via conversion of an existing diesel vehicle) and evaluate fuel cell LCVs.	1662300	1103769	66.40
	Prospects for fuel cells in portable power applications	Procurement project 1	Assess the status of fuel cells against technical and commercial application requirements for portable power and assess prospects and timescales.	50000	50000	100.00
	Fuel processing for fuel cells - a status review and assessment of prospects	Procurement project 2	Review status of fuel processing, to include gas, liquid and solid fuels.	50000	50000	100.00
	Prospects for UK component suppliers in markets for fuel cells	Procurement project 3	examine the potential supply chain for fuel cell systems and components and identify where UK industry may find opportunities	50000	50000	100.00
				27180257	10555363	38.83
				50019707	14139530	28.27



Ysgrifennydd Gwladol Cymru
Secretary of State for Wales

Rt Hon Paul Murphy MP

Tel: 020 7270 0549
Ffon: 020 7270 0549

Fax: 020 7270 0568
Ffacs: 020 7270 0568

GS
CC: GN
AMA

Wales Office | Swyddfa Cymru

Office of the Secretary of State for Wales
Gwydyr House
Whitehall
London SW1A 2ER

Swyddfa Ysgrifennydd Gwladol Cymru
Tŷ Gwydir
Whitehall
Llundain SW1A 2ER

Our ref: 01/sub/788

19 July 2001

Deo Patricia,

STATE AID: COAL INDUSTRY AID POST 2002

Thank you for your letter of 10 July seeking agreement to the UK's stance in the current EU negotiations on coal state aid arrangements after the expiry of the ECSC Treaty next July.

I agree that the stance you are proposing is the most sensible and realistic one, but do have a few specific comments. Clearly we must ensure consistency with our wider, strict state aids policy, but I do think it is important that we allow ourselves the flexibility to consider again whether we might want some limited and tailored form of state aids to the coal industry post 2002. In particular, as you say, we do not yet know what will be the outcome of the current PIU energy review and how this will impact on the energy mix within the UK. You will recall that the introduction of our current, time-limited coal state aids scheme last year was largely to allow the industry to overcome short term market problems and respond to our policy decision to lift the stricter consents policy on the building of gas-fuelled power stations. We cannot rule out similar shifts in emphasis of energy policy as a result of the PIU study, and we need to allow ourselves the flexibility to respond to them and not to impose too great a shock on any one energy sector. Indeed with the current debate on how much energy renewables can indeed deliver and public concerns about nuclear power, it may be that coal – in particular with investment in cleaner coal technologies – should continue to supply a major part of our energy needs.

In this context, I would also like to flag up concerns about the perception in Wales that the Government is abandoning the traditional industries, which are seen as being in conflict with new technology. I do not believe that this is the case and think it important that we should encourage investment in high technology to help these traditional industries such as coal mining survive and compete.

Tel: 020 7270 3000

Fax: 020 7270 0568

Ffôn: 020 7270 3000

Ffacs: 020 7270 0568



At the same time, I very much agree with you that we must bear down on high levels of German subsidies to their coal industry and to their proposed partial exemption from State Aid rules. I am not sure whether we can dismiss so readily the impact of German subsidies on the UK coal industry, however. There is already concern that imports of cheaper, subsidised coal are putting the Welsh coal industry at an unfair disadvantage, even though UK coal is produced more cheaply and efficiently. You will recall the concerns about the concessionary coal contract which was re-awarded in December 1999 to a consortium of importers, for example, and whether or not the worst fears of certain Welsh coal producers were justified, there is still a very real perception problem which the Government needs to address.

I would also be grateful if you could ensure that Rhodri Morgan is kept fully informed and is consulted on the UK's position on this issue. While energy and state aids issues are indeed reserved matters for the UK Government, coal and energy issues are very closely linked to regional economic development in Wales, for which the Assembly is responsible. The Assembly also has an interest in clean coal, as part of its responsibility for environment and sustainable development issues, and an interest in the wider energy mix as part of this and as part of its responsibility for planning consents for smaller on-shore power stations up to 50 MW. As you are also aware, there is considerable importance attached to remaining Welsh mines such as Betws and Tower and to Welsh coal power stations such as Aberthaw.

The Assembly has the right under the Government of Wales Act 1998 to consider and make appropriate representations about any matter affecting Wales, and as you may have seen from Mike German's letter of 16 July to Brian Wilson, the Assembly's Economic Development Committee are themselves undertaking a review of energy developments in Wales. We do not want a public row in due course if the UK Government appears to completely ignore Assembly recommendations, and this is another reason why we cannot afford to leave the Assembly out of our considerations, and why we should allow ourselves flexibility in the coal state aids regime post 2002.

I am copying this to the Prime Minister, Cabinet colleagues and to Sir Nigel Sheinwald and Sir Richard Wilson.

*Yon eue,
Paul*

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry
Department of Trade and Industry
1 Victoria Street
LONDON SW1H 0ET



DEFRA

Department for
Environment,
Food & Rural Affairs

Nobel House
17 Smith Square
London SW1 3JR

DN
cc: PA
OJ

JLW

PA
Am DEFRA
only again?

NO
We have
written
to DA

From the Secretary of State

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry
Department of Trade and Industry
1 Victoria Street
LONDON
SW1H 0ET

19 July 2001

Dear Secretary of State,

Renewables Obligation Statutory Consultation

Thank you for your letter of 11th July seeking agreement to the Statutory Consultation on the Renewables Obligation. I am pleased to see the good progress that has been made in developing what will be a key policy for helping us meet our climate change objectives.

I very much welcome the inclusion of co-firing as a means of creating a market for energy crops. This will be a positive encouragement towards achieving our objective of stimulating the market for energy crops and, as economies of scale in the production of energy crops are realised, in allowing energy crops to become commercially viable.

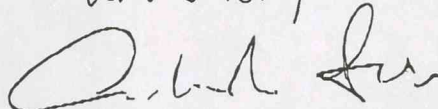
I do, however, have two concerns. The first is over the impact that the Renewables Obligation could have on combined heat and power (CHP) if, as I understand you to be proposing, licensed suppliers of CHP generated electricity were required to meet the Renewables Obligation. The CHP industry is going through difficult times, and the Government has a target - reiterated in the manifesto - of the doubling of Good Quality CHP capacity by 2010 to at least 10,000 MWe. The effect of including CHP electricity in the Renewables Obligation base would be increase the cost of CHP sold through a licensed supplier, and could significantly reduce our ability to meet our target. I understand that there is some doubt about the legal basis for exempting licensed suppliers of CHP from the Renewables Obligation base and that the matter has been referred to the Law Officers. I hope that this can be resolved soon, but if the Law Officers' view is that it would be within your powers under the Utilities Act 2000, I would urge you to make this exemption in the interests of our wider climate change objectives.



My second concern is over the treatment of the incineration of waste. I am pleased that you now propose to exclude from the Obligation energy produced from the incineration of mixed municipal waste unless, after separation, the biodegradable fraction is a minimum of 98% of the total. I would, however, like to reinforce Michael Meacher's proposal that energy from the incineration of municipal waste should be excluded from the renewables target. This would be in line with the recommendations of the Environment, Transport and Regional Affairs Committee's report on Sustainable Waste Management published in March 2001.

I am keen to see the Statutory Consultation on the Renewables Obligation proceed as soon as practicable once we have satisfactorily addressed the concerns which I have raised.

* Copies of this letter go the recipients of yours.

Yours truly


MARGARET BECKETT

RP (Approved by the Secretary of State
and signed in her absence)

* Copied to the Prime Minister, DA Committee and Sir Richard Wilson.

020 7215 5468

RESTRICTED - POLICY AND COMMERCIAL**PRIME MINISTER****ELECTRICITÉ DE FRANCE (EDF): UK ACQUISITIONS**

EdF has asked what the Government's political reaction would be to further acquisitions in the UK. This is important for some key UK interests: European energy liberalisation, the financial health of the UK electricity industry as it responds to NETA and new regulatory requirements, and our commitment to an independent merger control system. On balance, I do not think we should express public hostility to EdF if it purchases more assets in the UK. Privately, we should of course continue to be tough with the French on energy issues, and seek clear commitments from EdF on investment to preserve UK coal burn. Publicly, we need to take forward the debate on energy liberalisation in France and Germany – and we should press for EdF's support in this.

On 8 June, EdF told my officials about plans for three significant purchases in the UK. The company had previously agreed with Helen Liddell (when she was Energy Minister) that it would not make acquisitions in the UK until after the election.

However, on 10 June, we were told that French ministers had blocked EdF's plans. This decision surprised EdF. It reflected the initial hostility attracted by EdF's first acquisition of shares in the Italian company Montedison (a take-over now largely completed by EdF in partnership with Fiat). French Ministers feel isolated on energy liberalisation and exposed by some of EdF's forays into the rest of the EU.

EdF has now asked again for an indication of what the Government's likely public response would be to further purchases of assets. The three possible deals are:-

- (a) The purchase of Fiddler's Ferry and Ferrybridge power stations from Edison Mission;
- (b) SEEBOARD, the supply and distribution business on the South coast; and
- (c) (Possibly), TXU's sale of its Eastern Electricity distribution (wires) business, and its half of the 24-Seven joint venture with London Electricity.

Merger control

Any acquisition by EdF will be subject to EC or UK merger control. EdF are not asking for a UK government view on the competition process or any decision I may have to consider under UK rules. Rather, they want to know what the Government's reaction would be in political terms – whether, as they put it, the UK is likely to make the same sort of public fuss that the Italians have made over Montedison.

JW7115

RESTRICTED - POLICY AND COMMERCIAL**dti**

Department of Trade and Industry

020 7215 5468

RESTRICTED - POLICY AND COMMERCIAL

The UK electricity industry

The UK electricity industry is restructuring. The introduction of NETA has – as we hoped – put downward pressure on wholesale electricity prices. It has also exposed some of the financial risks being carried by supply companies. Separately, under the Utilities Act 2000 we are requiring the old Public Electricity Supply companies (like Seeboard and London) to separate their distribution (i.e. wires) businesses from their supply (i.e. customer facing) businesses. The distribution companies are regulated monopolies, while the supply businesses are subject to competitive pressure, and face significant risks. Many companies are under pressure from credit rating agencies to improve their balance sheets. Publicly warning off EdF from purchases in the UK in these circumstances would send an uncertain signal.

The French position

The Montedison episode has left the French government very sensitive to criticism about EdF acquisitions in Europe. Good. Both the Spanish and Italian governments have taken unilateral measures to prevent or undermine acquisitions by EdF. This is a much less welcome assault on the single market.

It was against that background that the French Government blocked further acquisitions in the UK. EdF is seeking to have the decision reversed. Their approach to us now is part of that campaign. Their calculation is that if French Ministers believe that the UK would not raise political objections to further acquisitions, then they would be allowed to proceed.

What should we do? The UK interests are:-

- (a) The operation of the single market and the competition rules. Here, we have announced our intention to strengthen the independence of UK merger control. Consistent with that, the Government should continue to be neutral on acquisitions in the UK or by UK companies in the rest of the EU, subject to the operation of competition rules. (And there is recent good news here, as Centrica (British Gas) has entered into a new joint venture supplying gas and electricity in Belgium);
- (b) Energy liberalisation in Europe. Here the French are difficult, having blocked the progress at the Stockholm summit until after the French Presidential elections. But the prospect of a public rebuke for EdF purchasing assets in the UK is unlikely to change the French Government's position; Meanwhile
- (c) We have some immediate energy issues where French co-operation is possible, and helpful. We will be looking for French support to push back German ambitions for a permanent new arrangement for coal subsidies after the expiry of the ECSC Treaty next year. Both issues are likely to come to the boil over the same period of time that EdF is likely to be completing any of the proposed transactions in the UK. If the

JW7115

RESTRICTED - POLICY AND COMMERCIAL**dti**

Department of Trade and Industry

020 7215 5468
RESTRICTED - POLICY AND COMMERCIAL

power station purchases come off, we could also seek a commitment to invest as much as possible in flue gas sulphur control equipment, to maintain potential coal burn in the face of tougher EU rules (something the existing owner, Edison Mission, has reneged on);

- (d) Our interest in an orderly capital market in respect of the assets of the UK electricity industry. As the industry adjusts to NETA and as the Utilities Act transfer schemes are implemented, we have a wider interest in ensuring that the market for electricity industry assets is not disrupted.

Overall, I consider that a public attack on EdF if it decides to proceed with further acquisitions in the UK would not advance our interests. It would throw doubt on the commitment to independent merger control to which the Government is committed, and disrupt the UK electricity sector. It would probably not change the French position on energy liberalisation. Privately, we might be able to extract some favours on the way. I see a commitment to install at least some flue gas desulphurisation if the power station purchases go ahead as very important, and I would press EdF hard on this.

We need to put this in context too. Public concern about energy issues has risen recently (partly the California effect). The PIU study is looking at these wider security of supply issues. Meanwhile, we need to maintain a steady regulatory and financial environment, and the sort of approach I suggest for EdF reflects that.

And we should not forget our European energy liberalisation agenda. Here, we need to take our agenda forward effectively – targeting our efforts at the major opponents and objections of change. We are already well engaged in stimulating the case for positive, liberalising change in Germany. I consider we should use EdF's approach to us to press EdF to publicly support European liberalisation and market opening.

I am copying this to Gordon Brown, Jack Straw, Helen Liddell, Sir Michael Jay, Sir Nigel Sheinwald and to Sir Richard Wilson.

P H

18 July 2001

DEPARTMENT OF TRADE AND INDUSTRY

JW7115

RESTRICTED - POLICY AND COMMERCIAL

dti

020 7944 4873

FROM THE SECRETARY OF STATE



The Rt Hon Patricia Hewitt MP
 Secretary of State
 Department for Trade and Industry
 1 Victoria Street
 LONDON
 SW1H 0ET

DEPARTMENT FOR TRANSPORT,
 LOCAL GOVERNMENT AND THE REGIONS

BLAND HOUSE
 BRESSENDEN PLACE
 LONDON SW1E 5DU

TEL: 020 7944 3011
 FAX: 020 7944 4399
 E-MAIL: stephen.byers@dtlr.gsi.gov.uk

WEB SITE: www.dtlr.gov.uk

OUR REF: SB/015995/01

Dear Patricia,

17 July 2001

THE RENEWABLES OBLIGATION STATUTORY CONSULTATION

Thank you for copying me your letter of 11 July to John Prescott. I am afraid your letter of 28 June did not reach me.

I am aware of the ongoing work your Department has been carrying out in connection with the Renewables Consultation, and I have noted your plans for the Renewables Obligation Statutory Consultation. I have no comments on the proposals published in your letter.

You will be aware that my officials are liaising closely with yours on the Regional Assessment Studies, which will help to promote a more strategic, positive approach to planning for renewable energy. We will also be revising Planning Policy Guidance for renewable energy (PPG 22) as soon as practicable. Both these measures should assist in helping to meet the Government's targets for renewable energy production.

I am copying this letter to the Prime Minister, members of DA Committee and to Sir Richard Wilson.

Yours, *Stephen*

STEPHEN BYERS



Rt Hon Rhodri Morgan AM

(H)
Prif Weinidog Cymru · First Minister
Cynulliad Cenedlaethol Cymru
The National Assembly for Wales

Our ref/Ein cyf: SF/3645/01

Bae Caerdydd
Caerdydd CF99 1NA
Switsfwrdd 029 2082 5111 GTN: 1208

Cardiff Bay
Cardiff CF99 1NA
Switchboard 029 2082 5111 GTN: 1208

Brian Wilson MP
Minister of State for Industry and Energy
Department of Trade and Industry
1 Victoria Street
London
SW1H 0ET

DN
g/PA

16 July 2001

Dear Brian

REVIEW OF ENERGY OBJECTIVES

Congratulations on your new job as Industry and Energy Minister at the DTI.

We definitely want to pursue one area of mutual interest stemming from your appointment on 25 June to chair a group leading a review by the Performance and Innovation Unit of the options for meeting the UK long term energy objectives.

That review is essential to meet the challenge of global warming, whilst ensuring sufficiently diverse, secure and competitive energy supplies. All energy projects have some environmental impact and there are tremendous public sensitivities around these, whether wind turbines, nuclear power or in the long-term, the Severn barrage.

The Assembly's Economic Development Committee is undertaking a review of energy developments in Wales (both in respect of production and consumption) for the period up to 2010. Therefore, I would very much like the Assembly administration to be closely involved in the PIU study. I understand a place on your Ministerial steering committee is on offer to the Wales Office but I would be grateful if my officials could also be directly linked to the study process with the possibility of some Ministerial involvement as well.

A copy of this letter goes to No 10 and Paul Murphy.

Yours
Rhodri



ROYAL NORWEGIAN EMBASSY
LONDON

Enquiries to
Erik Svedahl

Our Date
11 July 2001
Your Date

Our Reference
2000/00083-5
Your Reference

MT
cc/JS
JPO
AH
KUC

Mr Keith R Allan
CNWED
Foreign and Commonwealth Office
London SW1A 2AH

ENCLOSURE

~~John Pearson~~
Received 12/7/01

Dear Keith,

Invitation to the Prime Minister, the Rt Hon Tony Blair MP to speak at the Offshore Northern Seas (ONS) Conference in Stavanger, 27 August 2002.

Please find enclosed a letter from Mr Terje Vareberg, Chairman of the ONS Foundation, inviting the Prime Minister to give a keynote speech at the opening of ONS in August 2002.

The Embassy would appreciate your assistance in forwarding the letter to the addressee.

Best regards,

Erik Svedahl
1st Secretary

Michael Fatham, No 10

Copy has gone to Peter Bird
in Oil, Gas & Petrochemicals Section of Trade
Patterns UK, who leads on this. Copy
also to AMED, FCC.

Peter Bird, Trade Patterns UK ^{16/7/01}

This will not be a
matter.

Michael Fatham, No 10

cc. Keith Allan, CNWED, FCC
AMED, FCC - 16/7/01

u/h
AMED. 13/7
220-3171

Offshore Northern Seas Foundation



The Right Honourable Tony Blair
Prime minister
10 Downing Street
LONDON SW1A 2AA
UK

Stavanger, 6 June 2001
Our ref.: 01.4.0/1299/01/KUS/lt

Dear Mr Blair

Invitation to speak at Offshore Northern Seas (ONS 2002)

It is a great pleasure and privilege for us to invite you to give a keynote speech at the opening of Offshore Northern Seas in Stavanger, Norway, on Tuesday 27 August 2002.

The theme for this important international conference and exhibition will be "Energising a new generation".

HM King Harald V is the Royal Patron of ONS, and will once again undertake the official opening in 2002. In line with tradition, the prime minister of Norway is due to speak immediately after the king.

It is our hope that you will follow the Norwegian premier. He has been asked to look at Europe's energy future from a Norwegian perspective, and we would wish you to address the same topic from a UK perspective.

The opening ceremony will be chaired by David Loughman, Gas director for Shell UK and chair of the conference committee for ONS 2002. Other British members of this international body are Lord Moynihan, Anne Drinkwater (managing director of BP Norway) and consultant Phillip Lambert. A total of five nations are represented on the committee.

First staged in 1974, ONS takes place every other year and alternates with the Offshore Europe event in Aberdeen. The agenda at this major oil industry event focuses on political, economic and technological dimensions of international significance for the petroleum business.

In recent years, the ONS conference has also addressed a broader energy perspective even though its primary concentration is on the oil and gas sector.

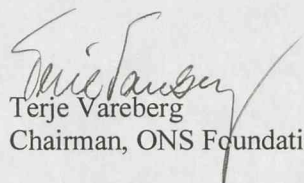
A total of 1 200 companies and 30 000 visitors from 62 nations attended the previous ONS event in 2000. The UK was represented by 166 British exhibitors, 500 visitors and 50 conference delegates.

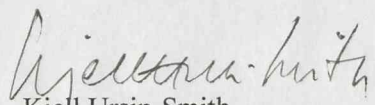
We know that late August is a difficult time in terms of holidays, but we very much hope that you will still be able to find the time to participate at the conference.

Norway is a beautiful and interesting country, offering many opportunities for outdoor activities to children and adults. These include fresh and salt water angling, a variety of water sports and many exciting activities for youngsters. Perhaps we could tempt you to spend a week of your holiday in our part of the world?

Should you find it inconvenient to bring your family to Norway, Stavanger has daily direct flights to and from London Stanstead as well as to Copenhagen and Amsterdam.

We very much hope that you will have the opportunity to accept our invitation, and extend a warm welcome to ONS on 27 August 2002.


Terje Vareberg
Chairman, ONS Foundation


Kjell Ursin-Smith
Managing director, ONS Foundation

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry

The Rt Hon John Prescott MP
Deputy Prime Minister and
First Secretary of State
Cabinet Office
70 Whitehall
London
SW1A 2AS

11 July 2001

Dear Deputy Prime Minister

The Renewables Obligation statutory consultation

I wrote to all Cabinet Ministers on 28 June, prior to the establishment of the Domestic Affairs committee, seeking agreement to publish detailed proposals for the Renewables Obligation. Now that the committee has been established, I am in a position to write you as members of that committee. The letter that follows is based on my earlier letter, with a revised Regulatory Impact Statement. In my earlier letter, I asked for comments by 11 July. Since that date has now passed, I would be grateful for your immediate reply.

We have set ourselves the target of securing 10% of our electricity from renewable sources by 2010, as part of our Climate Change Programme to meet our Kyoto commitments. The Renewables Obligation, a requirement on electricity suppliers to supply a percentage of their total sales from renewable sources, plays a key role in enabling us to reach that target, and is important in establishing our environmental credentials. We have committed ourselves to a challenging target and now we must be seen to deliver against our commitment. A preliminary consultation elicited over two hundred responses and, having considered the issues raised, I seek your agreement to publish more detailed proposals, prior to placing an Order before Parliament.

Whilst the target for renewable energy is UK-wide, promotion of renewable energy has been devolved to the Northern Irish and Scottish administrations and the Scottish Executive published a consultation document similar to our preliminary consultation document earlier this year. We propose that there will be a common Obligation percentage for Scotland, and England & Wales. Whilst the majority of the provisions of the Obligation will also be common, there may be some differences to reflect regional concerns. The Northern Ireland administration is currently considering possible support mechanisms for renewables. Our targets are extremely demanding and will be difficult to achieve. There are other constraints to the development of new renewable energy capacity, most notably the planning system and the New Electricity Trading Arrangements (NETA). Action to address these constraints will be required if we are to reach our targets.



Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

*Q/S
I'm sure you have
views about
including
waste incinerator
in this.*

GJ (+)

L 100m Renewable

*KL
JG
M
OW
PA
DJ
GN*



Proposed changes to original proposals

The majority of responses to the consultation were supportive of the proposed Obligation but a number of issues were raised. On the basis of the responses received and subsequent discussions between my officials and those in the other departments involved, I propose to make a number of changes to the original proposals.

Imports

I am concerned that the development of UK renewables generating capacity may be inhibited by significant imports of renewable energy from other Member States where there is significant state support for the electricity industry and that such imports, unless matched by equivalent additional inflows of electricity, (something that would be very hard to demonstrate), would not help the UK meet its climate change targets. I therefore propose to exclude electricity generated outside of the United Kingdom from the Obligation, until a sensible Europe-wide mechanism for renewables support and trading is in place. Although the European Commission has been working on such a scheme, there are numerous difficulties and progress has been very slow. In the meantime, we believe that a number of other member states are using schemes to support renewables where the support is effectively restricted to local renewables. This restriction on imports will need to be addressed in due course, in the light of developments to liberalise European energy markets. Electricity from Northern Ireland, which is not covered by the Obligation, would be eligible for the Obligation once the interconnector with Scotland is completed in the next year.

State Aid implications

The Obligation may well qualify as a state aid and we are currently in discussion with DG Competition about it. The proposed changes, especially the restriction on imports, will also need to be cleared with them. The Commission can be expected to undertake a thorough examination of the proposed changes, not least because of the risk that they may prompt a challenge by a third party. Although the Commission attitude is not yet clear, there is a risk that they will seek changes to the Obligation, which could impact on the implementation timetable. We will be seeking to ensure that any problems are identified and resolved as quickly as possible, and we hope to persuade the Commission that such restrictions to imports are justified, mainly on environmental grounds, and are therefore acceptable.

Energy-from-waste

The preliminary consultation proposed that all energy-from-waste would be included within the overall renewables target but excluded from the Obligation. I now feel that it is difficult to justify calling renewable the energy obtained from the fossil-derived element of waste, such as plastics. I therefore propose to exclude the energy from the fossil-derived element of waste from counting towards the renewables target. Whilst this will make our target harder to achieve, I believe it is consistent with our broad policy intention of reducing fossil carbon emissions and with the proposed EU Renewables Directive. In a recent letter, Michael Meacher has suggested that we do not count any energy-from-waste incineration towards our targets. I am concerned that this would introduce an additional cost burden of some £50 million onto

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry

The Rt Hon John Prescott MP
Deputy Prime Minister and
First Secretary of State
Cabinet Office
70 Whitehall
London
SW1A 2AS

11 July 2001

(P)
ZPH
The obligation features prominently in our response to the EC. As to doing it the new way round as well - highlighting the EC in the consultation - we can do that too, though I suspect it will be of limited domestic interest.
DAS
TOW



Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

LL
cc
DW
PA
OT
GN

Can this be used to highlight to G8 initiatives?

Dear Deputy Prime Minister

The Renewables Obligation statutory consultation

I wrote to all Cabinet Ministers on 28 June, prior to the establishment of the Domestic Affairs committee, seeking agreement to publish detailed proposals for the Renewables Obligation. Now that the committee has been established, I am in a position to write you as members of that committee. The letter that follows is based on my earlier letter, with a revised Regulatory Impact Statement. In my earlier letter, I asked for comments by 11 July. Since that date has now passed, I would be grateful for your immediate reply.

We have set ourselves the target of securing 10% of our electricity from renewable sources by 2010, as part of our Climate Change Programme to meet our Kyoto commitments. The Renewables Obligation, a requirement on electricity suppliers to supply a percentage of their total sales from renewable sources, plays a key role in enabling us to reach that target, and is important in establishing our environmental credentials. We have committed ourselves to a challenging target and now we must be seen to deliver against our commitment. A preliminary consultation elicited over two hundred responses and, having considered the issues raised, I seek your agreement to publish more detailed proposals, prior to placing an Order before Parliament.

Whilst the target for renewable energy is UK-wide, promotion of renewable energy has been devolved to the Northern Irish and Scottish administrations and the Scottish Executive published a consultation document similar to our preliminary consultation document earlier this year. We propose that there will be a common Obligation percentage for Scotland, and England & Wales. Whilst the majority of the provisions of the Obligation will also be common, there may be some differences to reflect regional concerns. The Northern Ireland administration is currently considering possible support mechanisms for renewables. Our targets are extremely demanding and will be difficult to achieve. There are other constraints to the development of new renewable energy capacity, most notably the planning system and the New Electricity Trading Arrangements (NETA). Action to address these constraints will be required if we are to reach our targets.



Proposed changes to original proposals

The majority of responses to the consultation were supportive of the proposed Obligation but a number of issues were raised. On the basis of the responses received and subsequent discussions between my officials and those in the other departments involved, I propose to make a number of changes to the original proposals.

Imports

I am concerned that the development of UK renewables generating capacity may be inhibited by significant imports of renewable energy from other Member States where there is significant state support for the electricity industry and that such imports, unless matched by equivalent additional inflows of electricity, (something that would be very hard to demonstrate), would not help the UK meet its climate change targets. I therefore propose to exclude electricity generated outside of the United Kingdom from the Obligation, until a sensible Europe-wide mechanism for renewables support and trading is in place. Although the European Commission has been working on such a scheme, there are numerous difficulties and progress has been very slow. In the meantime, we believe that a number of other member states are using schemes to support renewables where the support is effectively restricted to local renewables. This restriction on imports will need to be addressed in due course, in the light of developments to liberalise European energy markets. Electricity from Northern Ireland, which is not covered by the Obligation, would be eligible for the Obligation once the interconnector with Scotland is completed in the next year.

State Aid implications

The Obligation may well qualify as a state aid and we are currently in discussion with DG Competition about it. The proposed changes, especially the restriction on imports, will also need to be cleared with them. The Commission can be expected to undertake a thorough examination of the proposed changes, not least because of the risk that they may prompt a challenge by a third party. Although the Commission attitude is not yet clear, there is a risk that they will seek changes to the Obligation, which could impact on the implementation timetable. We will be seeking to ensure that any problems are identified and resolved as quickly as possible, and we hope to persuade the Commission that such restrictions to imports are justified, mainly on environmental grounds, and are therefore acceptable.

Energy-from-waste

The preliminary consultation proposed that all energy-from-waste would be included within the overall renewables target but excluded from the Obligation. I now feel that it is difficult to justify calling renewable the energy obtained from the fossil-derived element of waste, such as plastics. I therefore propose to exclude the energy from the fossil-derived element of waste from counting towards the renewables target. Whilst this will make our target harder to achieve, I believe it is consistent with our broad policy intention of reducing fossil carbon emissions and with the proposed EU Renewables Directive. In a recent letter, Michael Meacher has suggested that we do not count any energy-from-waste incineration towards our targets. I am concerned that this would introduce an additional cost burden of some £50 million onto^A



consumers, and will make our targets even more stretching, but I would welcome your thoughts on Michael's proposals.

The preliminary consultation proposed that energy from biomass be eligible for the Obligation, regardless of the source of the biomass (whether purpose-grown or waste) and regardless of the technology used to convert the biomass to energy, as long as the fuel stream was over 98% organic. Michael has also expressed the view that no energy from the incineration of municipal waste should be eligible for the Obligation. We wish to avoid artificial distinctions between different forms of biomass, but see some merit in ensuring that the incineration of household waste is not encouraged by the Obligation. We believe that requiring a 98% organic content will exclude even incineration of highly separated domestic waste, whilst avoiding artificial distinctions between waste and biomass.

I am however very keen to promote energy from waste technologies more advanced than incineration, such as pyrolysis, gasification and anaerobic digestion, which have strong environmental benefits over incineration and which support recycling. I propose to encourage the take-up of these technologies, therefore, by including within the Obligation energy-from-the non-fossil component of mixed waste using these technologies, whilst excluding incineration.

Large hydro

Much of the UK's current renewable energy comes from hydroelectric stations, the majority of which are elderly and in need of refurbishment and most of which are located in Northern Scotland. The required refurbishment, particularly for the smaller stations below 20 MW, is not economically viable at current electricity prices, and without refurbishment, there is a significant risk that these stations will be abandoned in the next few years. It would be disastrous if the stations were abandoned, just as we are looking to develop UK renewable generating capacity. I therefore propose the inclusion of output from refurbished hydro stations of up to 20MW capacity within the Obligation. Should this give rise to excess revenue over and above the costs of refurbishment, some of the excess could be transferred to the distribution business through existing licence provisions, so there is the possibility of lower distribution charges for Scottish consumers and less chance of a windfall profit for the owners. I also propose the inclusion of all new hydroelectric stations regardless of capacity.

Other measures

In order to stop consumers incurring the dead-weight costs of supporting fully depreciated plant I propose that electricity generated by stations operational prior to 1990 would not be eligible for the Obligation, unless refurbished or converted to co-firing. In the long-term, energy from specifically grown biomass, known as energy crops, will make a significant contribution but is currently hampered by a lack of available crops. In order to encourage the development of energy crops, I propose to allow co-firing – using renewable sources alongside fossil fuels in existing stations designed for fossil fuel generation – within the Obligation until 2011. The renewable element must be at least 75% energy crops from 2006, and co-firing may only fulfil up to 25% of a supplier's Obligation. These restrictions are designed as a transitional step towards the development of electricity generation based on energy crops which is not reliant on the use of fossil fuels.



Cost

We previously made a broad brush estimate that by 2010 the Obligation could add some 3.7% to the average cost of electricity to consumers. Taking account of the above changes, and more thorough analysis of the cost impact, we now estimate that by 2010 the Obligation could add some 4.5 % to average prices from a baseline of 1999 actual price levels. The worst-case cost to consumers is estimated at some £800 million by 2010, but may be increased by about £100 million if licence-exempt suppliers, many of whom would be CHP operators, charge more because the price of licensed supplies would be boosted by the Obligation. The actual increase could be less, as competitive forces within the market for renewable energy that the Obligation will create will put downward pressure on the price of renewables. I believe that this is a price worth paying for addressing the problem of climate change and should be seen against the backdrop of electricity prices that have fallen significantly over recent years.

Regulatory Impact Statement

A Regulatory Impact Assessment (RIA) has been produced covering this proposal, and the Cabinet Office Regulatory Impact Unit has been consulted. The RIA, in its current form, indicates that the proposals do have significant costs to customers and consumers, estimated at £310/tonne carbon by 2010, although benefits have been quantified as representing a saving of around 2.5 million tonnes of carbon over the same period. Further consultation will enable these estimates, and the impact upon business (particularly small business), to be further refined. This consultation will also give the opportunity for consultees to comment upon, and add to, the information the impact to typical businesses. This information will be summarised in the Final RIA.

Next steps

The responses to the preliminary consultation expressed a strong desire for an early implementation of the Obligation, given the long lead-in times for the significant investment that will be required. I wish to announce the statutory consultation on these detailed proposals in early July, so that the Order can be laid before the House in October and be brought into effect on 1 January 2002. This timetable will be dependent on obtaining the necessary State Aid clearance in good time. I attach a copy of the draft statutory consultation document for your information, and I am copying this letter to members of the Cabinet Domestic Affairs Committee and to Richard Wilson. I shall be writing separately to the devolved administrations. Our renewables targets have a high-profile and I believe we must make all due haste to introduce the Obligation and be seen to deliver on our commitments. I would be grateful therefore, if you (and the copy recipients) can confirm that you are content with these proposals by close of play on 11 July 2001.

Yours sincerely

Patricia Hewitt

FP **PATRICIA HEWITT**
*Approved by the Secretary of
State and signed in her absence*
CM7097

dti

Department of Trade and Industry

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry



Ross Finnie Esq MSP
Minister for Rural Affairs
Scottish Executive
St Andrew's House
Regent Road
Edinburgh
EH1 3DG

Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

11 July 2001

Dear Minister

The Renewables Obligation statutory consultation

We have set ourselves the target of securing 10% of our electricity from renewable sources by 2010, as part of our Climate Change Programme to meet our Kyoto commitments. The Renewables Obligation, a requirement on electricity suppliers to supply a percentage of their total sales from renewable sources, plays a key role in enabling us to reach that target, and is important in establishing our environmental credentials. We have committed ourselves to a challenging target and now we must be seen to deliver against our commitment. A preliminary consultation elicited over two hundred responses and, having considered the issues raised, I am seeking Cabinet agreement to publish more detailed proposals, prior to placing an Order before Parliament.

Whilst the target for renewable energy is UK-wide, promotion of renewable energy has been devolved to the Northern Irish and Scottish administrations and the Scottish Executive published a consultation document similar to our preliminary consultation document earlier this year. We propose that there will be a common Obligation percentage for Scotland, and England & Wales. The Northern Ireland administration is currently considering possible support mechanisms for renewables. I wish to inform you, therefore, of our proposals for the Renewables Obligation in England & Wales.

Our targets are extremely demanding and will be difficult to achieve. There are other constraints to the development of new renewable energy capacity, most notably the planning system and the New Electricity Trading Arrangements (NETA) in England and Wales. Action to address these constraints will be required if we are to reach our targets.



Proposed changes to original proposals

The majority of responses to the consultation were supportive of the proposed Obligation but a number of issues were raised. On the basis of the responses received and subsequent discussions between my officials and those in the other departments involved, I propose to make a number of changes to the original proposals.

Imports

I am concerned that the development of UK renewables generating capacity may be inhibited by significant imports of renewable energy from other Member States where there is significant state support for the electricity industry and that such imports, unless matched by equivalent additional inflows of electricity (something that would be very hard to demonstrate), would not help the UK meet its climate change targets. I therefore propose to exclude electricity generated outside of the United Kingdom from the Obligation, until a sensible Europe-wide mechanism for renewables support and trading is in place. Although the European Commission has been working on such a scheme, there are numerous difficulties and progress has been very slow. In the meantime, we believe that a number of other member states are using schemes to support renewables where the support is effectively restricted to local renewables. This restriction on imports will need to be addressed in due course, in the light of developments to liberalise European energy markets.

Electricity from Northern Ireland, which is not covered by the Obligation, would be eligible for the Obligation once the interconnector with Scotland is completed in the next year. I am concerned, however, that generators currently subject to the Northern Ireland Non-Fossil Fuel Obligation (NI-NFFO) do not gain a double-benefit at the expense of consumers, and so I propose that such generators would not be eligible for the Obligation in England & Wales. I would hope that the same policy could be adopted under the Renewables Obligation (Scotland).

State Aid implications

The Obligation may well qualify as a state aid and we are currently in discussion with DG Competition about it. The proposed changes, especially the restriction on imports, will also need to be cleared with them. The Commission can be expected to undertake a thorough examination of the proposed changes, not least because of the risk that they may prompt a challenge by a third party. Although the Commission attitude is not yet clear, there is a risk that they will seek changes to the Obligation, which could impact on the implementation timetable. We will be seeking to ensure that any problems are identified and resolved as quickly as possible, and we hope to persuade the Commission that such restrictions to imports are justified, mainly on environmental grounds, and are therefore acceptable.

Energy-from-waste

The preliminary consultation proposed that all energy-from-waste would be included within the overall renewables target but excluded from the Obligation. I now feel that it is difficult to justify calling renewable the energy obtained from the fossil-derived element of waste, such as scrap tyres. I therefore propose to exclude the energy from the fossil-derived element of waste from counting towards the renewables target. Whilst this will make our target harder to



achieve, I believe it is consistent with our broad policy intention of reducing fossil carbon emissions and with the proposed EU Renewables Directive. In a recent letter, Michael Meacher has suggested that we do not count any energy-from-waste incineration towards our targets. I am concerned that this would introduce an additional cost burden of some £50 million onto consumers, and will make our targets even more stretching, and I have asked for the thoughts of other Cabinet colleagues on Michael's proposals.

The preliminary consultation proposed that energy from biomass be eligible for the Obligation, regardless of the source of the biomass (whether purpose-grown or waste) and regardless of the technology used to convert the biomass to energy, as long as the fuel stream was over 98% organic. Michael has also expressed the view that no energy from the incineration of municipal waste should be eligible for the Obligation. We wish to avoid artificial distinctions between different forms of biomass, but see some merit in ensuring that the incineration of household waste is not encouraged by the Obligation. We believe that requiring a 98% organic content will exclude incineration of even highly separated domestic waste, whilst avoiding artificial distinctions between waste and biomass.

I am however very keen to promote energy from waste technologies more advanced than incineration, such as pyrolysis, gasification and anaerobic digestion, which have strong environmental benefits over incineration and which support recycling. I propose to encourage the take-up of these technologies, therefore, by including within the Obligation energy-from-the non-fossil component of mixed waste using these technologies, whilst excluding incineration.

Large hydro

Much of the UK's current renewable energy comes from hydroelectric stations, the majority of which are elderly and in need of refurbishment and most of which are located in Northern Scotland. The required refurbishment, particularly for the smaller stations below 20 MW, is not economically viable at current electricity prices, and without refurbishment, there is a significant risk that these stations will be abandoned in the next few years. It would be disastrous if the stations were abandoned, just as we are looking to develop UK renewable generating capacity. I therefore propose the inclusion of output from refurbished hydro stations of up to 20MW capacity within the Obligation. Should this give rise to excess revenue over and above the costs of refurbishment, some of the excess could be transferred to the distribution business through existing licence provisions, so there is the possibility of lower distribution charges for Scottish consumers and less chance of a windfall profit for the owners. I also propose the inclusion of all new hydroelectric stations, regardless of capacity.

Other measures

In order to stop consumers incurring the dead-weight costs of supporting fully depreciated plant I propose that electricity generated by stations operational prior to 1990 would not be eligible for the Obligation, unless refurbished or converted to co-firing. In the long-term, energy from specifically grown biomass, known as energy crops, will make a significant contribution but is currently hampered by a lack of available crops. In order to encourage the development of energy crops, I propose to allow co-firing – using renewable sources alongside fossil fuels in existing stations designed for fossil fuel generation – within the Obligation until



2011. The renewable element must be at least 75% energy crops from 2006, and co-firing may only fulfil up to 25% of a supplier's Obligation. These restrictions are designed as a transitional step towards the development of electricity generation based on energy crops which is not reliant on the use of fossil fuels.

Cost

We previously made a broad brush estimate that by 2010 the Obligation could add some 3.7% to the average cost of electricity to consumers. Taking account of the above changes, and more thorough analysis of the cost impact, we now estimate that by 2010 the Obligation could add some 4.5 % to average prices from a baseline of 1999 actual price levels. The worst-case cost to consumers is estimated at some £800 million by 2010, but may be increased by about £100 million if licence-exempt suppliers, many of whom would be CHP operators, charge more because the price of licensed supplies would be boosted by the Obligation. The actual increase could be less, as competitive forces within the market for renewable energy that the Obligation will create will put downward pressure on the price of renewables. I believe that this is a price worth paying for addressing the problem of climate change and should be seen against the backdrop of electricity prices that have fallen significantly over recent years.

Regulatory Impact Statement

A Regulatory Impact Assessment (RIA) has been produced covering this proposal, and the Cabinet Office Regulatory Impact Unit has been consulted. The RIA, in its current form, indicates that the proposals do have significant costs to customers and consumers, estimated at £310/tonne carbon by 2010, although benefits have been quantified as representing a saving of around 2.5 million tonnes of carbon over the same period. Further consultation will enable these estimates, and the impact upon business (particularly small business), to be further refined. This consultation will also give the opportunity for consultees to comment upon, and add to, the information the impact to typical businesses. This information will be summarised in the Final RIA.

Next steps

The responses to the preliminary consultation expressed a strong desire for an early implementation of the Obligation, given the long lead-in times for the significant investment that will be required. I wish to announce the statutory consultation on these detailed proposals in early July, so that the Order can be laid before the House in October and be brought into effect on 1 January 2002. This timetable will be dependent on obtaining the necessary State Aid clearance in good time. I attach a copy of the draft statutory consultation document for your information. I have written to members of the Cabinet Domestic Affairs Committee and to Richard Wilson and have asked for their agreement to these proposals by 11 July 2001.

Yours sincerely

Patricia Hewitt

PP **PATRICIA HEWITT**
(Approved by the Secretary of
State and signed in her absence)

CM7098

dti

Department of Trade and Industry

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry



Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

Michael German OBE AM
Deputy First Minister
National Assembly for Wales
Cardiff Bay
Cardiff
CF99 1NA

11 July 2001

Dear Minister

The Renewables Obligation statutory consultation

We have set ourselves the target of securing 10% of our electricity from renewable sources by 2010, as part of our Climate Change Programme to meet our Kyoto commitments. The Renewables Obligation, a requirement on electricity suppliers to supply a percentage of their total sales from renewable sources, plays a key role in enabling us to reach that target, and is important in establishing our environmental credentials. We have committed ourselves to a challenging target and now we must be seen to deliver against our commitment. A preliminary consultation elicited over two hundred responses and, having considered the issues raised, I am seeking Cabinet agreement to publish more detailed proposals, prior to placing an Order before Parliament.

Whilst the target for renewable energy is UK-wide, promotion of renewable energy has been devolved to the Northern Irish and Scottish administrations and the Scottish Executive published a consultation document similar to our preliminary consultation document earlier this year. We propose that there will be a common Obligation percentage for Scotland, and England & Wales. The Northern Ireland administration is currently considering possible support mechanisms for renewables. I wish to inform you, therefore, of our proposals for the Renewables Obligation in England & Wales.

Our targets are extremely demanding and will be difficult to achieve. There are other constraints to the development of new renewable energy capacity, most notably the planning system and the New Electricity Trading Arrangements (NETA) in England and Wales. Action to address these constraints will be required if we are to reach our targets.



Proposed changes to original proposals

The majority of responses to the consultation were supportive of the proposed Obligation but a number of issues were raised. On the basis of the responses received and subsequent discussions between my officials and those in the other departments involved, I propose to make a number of changes to the original proposals.

Imports

I am concerned that the development of UK renewables generating capacity may be inhibited by significant imports of renewable energy from other Member States where there is significant state support for the electricity industry and that such imports, unless matched by equivalent additional inflows of electricity (something that would be very hard to demonstrate), would not help the UK meet its climate change targets. I therefore propose to exclude electricity generated outside of the United Kingdom from the Obligation, until a sensible Europe-wide mechanism for renewables support and trading is in place. Although the European Commission has been working on such a scheme, there are numerous difficulties and progress has been very slow. In the meantime, we believe that a number of other member states are using schemes to support renewables where the support is effectively restricted to local renewables. This restriction on imports will need to be addressed in due course, in the light of developments to liberalise European energy markets.

Electricity from Northern Ireland, which is not covered by the Obligation, would be eligible for the Obligation once the interconnector with Scotland is completed in the next year. I am concerned, however, that generators currently subject to the Northern Ireland Non-Fossil Fuel Obligation (NI-NFFO) do not gain a double-benefit at the expense of consumers, and so I propose that such generators would not be eligible for the Obligation in England & Wales. I would hope that the same policy could be adopted under the Renewables Obligation (Scotland).

State Aid implications

The Obligation may well qualify as a state aid and we are currently in discussion with DG Competition about it. The proposed changes, especially the restriction on imports, will also need to be cleared with them. The Commission can be expected to undertake a thorough examination of the proposed changes, not least because of the risk that they may prompt a challenge by a third party. Although the Commission attitude is not yet clear, there is a risk that they will seek changes to the Obligation, which could impact on the implementation timetable. We will be seeking to ensure that any problems are identified and resolved as quickly as possible, and we hope to persuade the Commission that such restrictions to imports are justified, mainly on environmental grounds, and are therefore acceptable.

Energy-from-waste

The preliminary consultation proposed that all energy-from-waste would be included within the overall renewables target but excluded from the Obligation. I now feel that it is difficult to justify calling renewable the energy obtained from the fossil-derived element of waste, such as scrap tyres. I therefore propose to exclude the energy from the fossil-derived element of waste from counting towards the renewables target. Whilst this will make our target harder to



achieve, I believe it is consistent with our broad policy intention of reducing fossil carbon emissions and with the proposed EU Renewables Directive. In a recent letter, Michael Meacher has suggested that we do not count any energy-from-waste incineration towards our targets. I am concerned that this would introduce an additional cost burden of some £50 million onto consumers, and will make our targets even more stretching, and I have asked for the thoughts of other Cabinet colleagues on Michael's proposals.

The preliminary consultation proposed that energy from biomass be eligible for the Obligation, regardless of the source of the biomass (whether purpose-grown or waste) and regardless of the technology used to convert the biomass to energy, as long as the fuel stream was over 98% organic. Michael has also expressed the view that no energy from the incineration of municipal waste should be eligible for the Obligation. We wish to avoid artificial distinctions between different forms of biomass, but see some merit in ensuring that the incineration of household waste is not encouraged by the Obligation. We believe that requiring a 98% organic content will exclude incineration of even highly separated domestic waste, whilst avoiding artificial distinctions between waste and biomass.

I am however very keen to promote energy from waste technologies more advanced than incineration, such as pyrolysis, gasification and anaerobic digestion, which have strong environmental benefits over incineration and which support recycling. I propose to encourage the take-up of these technologies, therefore, by including within the Obligation energy-from-the non-fossil component of mixed waste using these technologies, whilst excluding incineration.

Large hydro

Much of the UK's current renewable energy comes from hydroelectric stations, the majority of which are elderly and in need of refurbishment and most of which are located in Northern Scotland. The required refurbishment, particularly for the smaller stations below 20 MW, is not economically viable at current electricity prices, and without refurbishment, there is a significant risk that these stations will be abandoned in the next few years. It would be disastrous if the stations were abandoned, just as we are looking to develop UK renewable generating capacity. I therefore propose the inclusion of output from refurbished hydro stations of up to 20MW capacity within the Obligation. Should this give rise to excess revenue over and above the costs of refurbishment, some of the excess could be transferred to the distribution business through existing licence provisions, so there is the possibility of lower distribution charges for Scottish consumers and less chance of a windfall profit for the owners. I also propose the inclusion of all new hydroelectric stations, regardless of capacity.

Other measures

In order to stop consumers incurring the dead-weight costs of supporting fully depreciated plant I propose that electricity generated by stations operational prior to 1990 would not be eligible for the Obligation, unless refurbished or converted to co-firing. In the long-term, energy from specifically grown biomass, known as energy crops, will make a significant contribution but is currently hampered by a lack of available crops. In order to encourage the development of energy crops, I propose to allow co-firing – using renewable sources alongside fossil fuels in existing stations designed for fossil fuel generation – within the Obligation until



2011. The renewable element must be at least 75% energy crops from 2006, and co-firing may only fulfil up to 25% of a supplier's Obligation. These restrictions are designed as a transitional step towards the development of electricity generation based on energy crops which is not reliant on the use of fossil fuels.

Cost

We previously made a broad brush estimate that by 2010 the Obligation could add some 3.7% to the average cost of electricity to consumers. Taking account of the above changes, and more thorough analysis of the cost impact, we now estimate that by 2010 the Obligation could add some 4.5 % to average prices from a baseline of 1999 actual price levels. The worst-case cost to consumers is estimated at some £800 million by 2010, but may be increased by about £100 million if licence-exempt suppliers, many of whom would be CHP operators, charge more because the price of licensed supplies would be boosted by the Obligation. The actual increase could be less, as competitive forces within the market for renewable energy that the Obligation will create will put downward pressure on the price of renewables. I believe that this is a price worth paying for addressing the problem of climate change and should be seen against the backdrop of electricity prices that have fallen significantly over recent years.

Regulatory Impact Statement

A Regulatory Impact Assessment (RIA) has been produced covering this proposal, and the Cabinet Office Regulatory Impact Unit has been consulted. The RIA, in its current form, indicates that the proposals do have significant costs to customers and consumers, estimated at £310/tonne carbon by 2010, although benefits have been quantified as representing a saving of around 2.5 million tonnes of carbon over the same period. Further consultation will enable these estimates, and the impact upon business (particularly small business), to be further refined. This consultation will also give the opportunity for consultees to comment upon, and add to, the information the impact to typical businesses. This information will be summarised in the Final RIA.

Next steps

The responses to the preliminary consultation expressed a strong desire for an early implementation of the Obligation, given the long lead-in times for the significant investment that will be required. I wish to announce the statutory consultation on these detailed proposals in early July, so that the Order can be laid before the House in October and be brought into effect on 1 January 2002. This timetable will be dependent on obtaining the necessary State Aid clearance in good time. I attach a copy of the draft statutory consultation document for your information. I have written to members of the Cabinet Domestic Affairs Committee and to Richard Wilson and have asked for their agreement to these proposals by 11 July 2001.

Yours sincerely

PATRICIA HEWITT
(Approved by the Secretary of
State and signed in her absence)

CM7098

dti

Department of Trade and Industry

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry



Sir Reg Empey MLA
Minister of Enterprise
Department for Enterprise, Trade & Investment
Northern Ireland Executive Committee
Parliament Buildings
Stormont
Belfast
BT4 3XX

Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

11 July 2001

Dear Sir Reg

The Renewables Obligation statutory consultation

We have set ourselves the target of securing 10% of our electricity from renewable sources by 2010, as part of our Climate Change Programme to meet our Kyoto commitments. The Renewables Obligation, a requirement on electricity suppliers to supply a percentage of their total sales from renewable sources, plays a key role in enabling us to reach that target, and is important in establishing our environmental credentials. We have committed ourselves to a challenging target and now we must be seen to deliver against our commitment. A preliminary consultation elicited over two hundred responses and, having considered the issues raised, I am seeking Cabinet agreement to publish more detailed proposals, prior to placing an Order before Parliament.

Whilst the target for renewable energy is UK-wide, promotion of renewable energy has been devolved to the Northern Irish and Scottish administrations and the Scottish Executive published a consultation document similar to our preliminary consultation document earlier this year. We propose that there will be a common Obligation percentage for Scotland, and England & Wales. The Northern Ireland administration is currently considering possible support mechanisms for renewables. I wish to inform you, therefore, of our proposals for the Renewables Obligation in England & Wales.

Our targets are extremely demanding and will be difficult to achieve. There are other constraints to the development of new renewable energy capacity, most notably the planning system and the New Electricity Trading Arrangements (NETA) in England and Wales. Action to address these constraints will be required if we are to reach our targets.



Proposed changes to original proposals

The majority of responses to the consultation were supportive of the proposed Obligation but a number of issues were raised. On the basis of the responses received and subsequent discussions between my officials and those in the other departments involved, I propose to make a number of changes to the original proposals.

Imports

I am concerned that the development of UK renewables generating capacity may be inhibited by significant imports of renewable energy from other Member States where there is significant state support for the electricity industry and that such imports, unless matched by equivalent additional inflows of electricity (something that would be very hard to demonstrate), would not help the UK meet its climate change targets. I therefore propose to exclude electricity generated outside of the United Kingdom from the Obligation, until a sensible Europe-wide mechanism for renewables support and trading is in place. Although the European Commission has been working on such a scheme, there are numerous difficulties and progress has been very slow. In the meantime, we believe that a number of other member states are using schemes to support renewables where the support is effectively restricted to local renewables. This restriction on imports will need to be addressed in due course, in the light of developments to liberalise European energy markets.

Electricity from Northern Ireland, which is not covered by the Obligation, would be eligible for the Obligation once the interconnector with Scotland is completed in the next year. I am concerned, however, that generators currently subject to the Northern Ireland Non-Fossil Fuel Obligation (NI-NFFO) do not gain a double-benefit at the expense of consumers, and so I propose that such generators would not be eligible for the Obligation in England & Wales. I would hope that the same policy could be adopted under the Renewables Obligation (Scotland).

State Aid implications

The Obligation may well qualify as a state aid and we are currently in discussion with DG Competition about it. The proposed changes, especially the restriction on imports, will also need to be cleared with them. The Commission can be expected to undertake a thorough examination of the proposed changes, not least because of the risk that they may prompt a challenge by a third party. Although the Commission attitude is not yet clear, there is a risk that they will seek changes to the Obligation, which could impact on the implementation timetable. We will be seeking to ensure that any problems are identified and resolved as quickly as possible, and we hope to persuade the Commission that such restrictions to imports are justified, mainly on environmental grounds, and are therefore acceptable.

Energy-from-waste

The preliminary consultation proposed that all energy-from-waste would be included within the overall renewables target but excluded from the Obligation. I now feel that it is difficult to justify calling renewable the energy obtained from the fossil-derived element of waste, such as scrap tyres. I therefore propose to exclude the energy from the fossil-derived element of waste from counting towards the renewables target. Whilst this will make our target harder to



achieve, I believe it is consistent with our broad policy intention of reducing fossil carbon emissions and with the proposed EU Renewables Directive. In a recent letter, Michael Meacher has suggested that we do not count any energy-from-waste incineration towards our targets. I am concerned that this would introduce an additional cost burden of some £50 million onto consumers, and will make our targets even more stretching, and I have asked for the thoughts of other Cabinet colleagues on Michael's proposals.

The preliminary consultation proposed that energy from biomass be eligible for the Obligation, regardless of the source of the biomass (whether purpose-grown or waste) and regardless of the technology used to convert the biomass to energy, as long as the fuel stream was over 98% organic. Michael has also expressed the view that no energy from the incineration of municipal waste should be eligible for the Obligation. We wish to avoid artificial distinctions between different forms of biomass, but see some merit in ensuring that the incineration of household waste is not encouraged by the Obligation. We believe that requiring a 98% organic content will exclude incineration of even highly separated domestic waste, whilst avoiding artificial distinctions between waste and biomass.

I am however very keen to promote energy from waste technologies more advanced than incineration, such as pyrolysis, gasification and anaerobic digestion, which have strong environmental benefits over incineration and which support recycling. I propose to encourage the take-up of these technologies, therefore, by including within the Obligation energy-from-the non-fossil component of mixed waste using these technologies, whilst excluding incineration.

Large hydro

Much of the UK's current renewable energy comes from hydroelectric stations, the majority of which are elderly and in need of refurbishment and most of which are located in Northern Scotland. The required refurbishment, particularly for the smaller stations below 20 MW, is not economically viable at current electricity prices, and without refurbishment, there is a significant risk that these stations will be abandoned in the next few years. It would be disastrous if the stations were abandoned, just as we are looking to develop UK renewable generating capacity. I therefore propose the inclusion of output from refurbished hydro stations of up to 20MW capacity within the Obligation. Should this give rise to excess revenue over and above the costs of refurbishment, some of the excess could be transferred to the distribution business through existing licence provisions, so there is the possibility of lower distribution charges for Scottish consumers and less chance of a windfall profit for the owners. I also propose the inclusion of all new hydroelectric stations, regardless of capacity.

Other measures

In order to stop consumers incurring the dead-weight costs of supporting fully depreciated plant I propose that electricity generated by stations operational prior to 1990 would not be eligible for the Obligation, unless refurbished or converted to co-firing. In the long-term, energy from specifically grown biomass, known as energy crops, will make a significant contribution but is currently hampered by a lack of available crops. In order to encourage the development of energy crops, I propose to allow co-firing – using renewable sources alongside fossil fuels in existing stations designed for fossil fuel generation – within the Obligation until



2011. The renewable element must be at least 75% energy crops from 2006, and co-firing may only fulfil up to 25% of a supplier's Obligation. These restrictions are designed as a transitional step towards the development of electricity generation based on energy crops which is not reliant on the use of fossil fuels.

Cost

We previously made a broad brush estimate that by 2010 the Obligation could add some 3.7% to the average cost of electricity to consumers. Taking account of the above changes, and more thorough analysis of the cost impact, we now estimate that by 2010 the Obligation could add some 4.5 % to average prices from a baseline of 1999 actual price levels. The worst-case cost to consumers is estimated at some £800 million by 2010, but may be increased by about £100 million if licence-exempt suppliers, many of whom would be CHP operators, charge more because the price of licensed supplies would be boosted by the Obligation. The actual increase could be less, as competitive forces within the market for renewable energy that the Obligation will create will put downward pressure on the price of renewables. I believe that this is a price worth paying for addressing the problem of climate change and should be seen against the backdrop of electricity prices that have fallen significantly over recent years.

Regulatory Impact Statement

A Regulatory Impact Assessment (RIA) has been produced covering this proposal, and the Cabinet Office Regulatory Impact Unit has been consulted. The RIA, in its current form, indicates that the proposals do have significant costs to customers and consumers, estimated at £310/tonne carbon by 2010, although benefits have been quantified as representing a saving of around 2.5 million tonnes of carbon over the same period. Further consultation will enable these estimates, and the impact upon business (particularly small business), to be further refined. This consultation will also give the opportunity for consultees to comment upon, and add to, the information the impact to typical businesses. This information will be summarised in the Final RIA.

Next steps

The responses to the preliminary consultation expressed a strong desire for an early implementation of the Obligation, given the long lead-in times for the significant investment that will be required. I wish to announce the statutory consultation on these detailed proposals in early July, so that the Order can be laid before the House in October and be brought into effect on 1 January 2002. This timetable will be dependent on obtaining the necessary State Aid clearance in good time. I attach a copy of the draft statutory consultation document for your information. I have written to members of the Cabinet Domestic Affairs Committee and to Richard Wilson and have asked for their agreement to these proposals by 11 July 2001.

Yours sincerely

PATRICIA HEWITT
*(Approved by the Secretary of
State and signed in her absence)*

CM7098

dti

Department of Trade and Industry

The Renewables Obligation

Statutory Consultation

Index

Executive Summary	6
Summary of changes	10
Renewable Energy	12
Government policy on New & Renewable Energy	13
Policy Aims	13
Targets	14
Policy Instruments	15
Timetable	16
The Renewables Obligation	17
Implementation date	17
The Government's commitments	17
Role of Ofgem	17
Basis of calculating	18
Electricity generated outside of the United Kingdom	19
Eligible technologies	20
Eligible stations	22
Awarding of ROCs	23
Banking & Borrowing	23
Presenting of ROCs	24
Buying out	24
Recycling of buyout	25
State Aid Clearance	25

Annex A: The Renewables Obligation draft order.....	26
Annex B: Regulatory Impact Assessment.....	44
Annex C: Other Policy Instruments.....	57
Capital Grants.....	57
Offshore Wind.....	57
The New Opportunities Fund.....	58
Renewables Fund/PIU study.....	58
Climate Change Levy exemptions.....	59
Research & Development.....	60
Annex D: Other issues raised in Preliminary Consultation.....	63
Green tariffs.....	63
Embedded generation.....	63
NETA.....	63
Planning.....	63
Offshore Wind.....	65

INTRODUCTION BY PATRICIA HEWITT, SECRETARY OF STATE FOR TRADE & INDUSTRY

I am acutely aware of the growing importance of renewable energy in this country. I see the development of renewables as a vital part of the wider sustainability agenda with important implications, both nationally and internationally.

We are now looking to accelerate the development of renewables - and in a wide range of technologies. We have set a target of 10% renewables electricity by 2010, subject to the cost being acceptable to the consumer. This is a very challenging target but one we are determined to see through. The 10% target is intended to act as a stimulus to industry and provide milestones for progress monitoring.

To help industry deliver the target, we are putting in place a raft of measures, of which the most important instrument is the Renewables Obligation, which is the subject of this statutory consultation. The Renewables Obligation will provide the impetus for the new generating capacity to be developed that will be required to meet our current targets and as a basis for further reductions in carbon dioxide emissions.

Other measures include :

- the exemption of renewables electricity from the Climate Change Levy,
- a package of direct financial support worth over £260 million over this and the next two financial years
- freedom for existing NFFO projects to move location to overcome planning difficulties; and
- a new regional approach to planning and targets for renewable energy.

Because the Renewables Obligation is the single most important measure we are taking, it is vital that we get the detail right. We have taken on board many of the views expressed in the earlier consultation on the Obligation in producing this final, statutory consultation paper.

I have been greatly encouraged by the positive reception that our earlier consultation received and the growing enthusiasm in the industry to rise to the challenge set

before us. I detect a real sense of renewable energy shifting up a gear, making the transition from the fringes of the environmental scene into the heart of the energy and sustainable development communities.

Whilst this is an ambitious target, it is not an end in itself. I do not want to see renewables stop at 10%. I want to see a strong, world-beating industry develop in the UK. I welcome your comments on our proposals.

Patricia Hewitt

Secretary of State for Trade & Industry

Executive Summary

The Government's policy on renewable energy, published in February 2000 following extensive consultation¹, aims to increase the contribution of renewable electricity in the UK to 5% of total available electricity by the end of 2003, and 10% in 2010. Whilst the renewable energy target is UK wide, the responsibility for bringing forward measures to support renewables in Scotland and Northern Ireland has been devolved to the Scottish and Northern Ireland administrations respectively. A key policy instrument to deliver this growth in the renewables sector is the Renewables Obligation, for which provision is made in the Utilities Act 2000 and which was the subject of a preliminary consultation in October 2000. Some 200 responses were received to that consultation and, following analysis, this statutory consultation describes the Government's proposals for an Order to be laid before Parliament in October this year. This consultation document addresses the proposed Order for England and Wales solely. Comments are invited from the wider community, as well as the statutory consultees, on these detailed proposals. Responses should be made by [28th September], ideally by email, and a series of meetings to discuss the proposals will be held on 10th & 11th September. Responses will be published on the DTI website unless marked 'Confidential'.

The Obligation should be seen as part of the UK's Climate Change Programme and as part of a wider programme to support and develop the renewable energy sector. In addition to the Obligation, exemption from the Climate Change Levy will provide a further incentive for the uptake of renewable generation. The Government continues to invest in renewables research and development, both through the Research Councils and through the DTI's own research and development programme. A programme of capital grants worth £39 million for offshore wind has been announced by the DTI, and DEFRA have announced establishment grants for energy crops totalling £29 million. The New Opportunities Fund are also funding offshore wind, energy crops and small-scale biomass heat projects to the tune of £50 million. Another £10 million has been made available to fund the launch of a major market stimulation programme for solar photovoltaics, aimed at matching the major solar

¹ Department of Trade & Industry (2000), *New & Renewable Energy: Prospects for the 21st Century: Conclusions in response to the Public Consultation*; London: DTI

1. Introduction

1. The Utilities Act 2000 made provision for an Obligation to be placed on licensed electricity suppliers to supply a certain percentage of their total supply from renewable sources. A preliminary consultation was published in October 2000 containing proposals about how such an Obligation would be implemented in England & Wales. The response to that consultation document was very encouraging, with over 200 responses being received from a wide range of interests – from the electricity supply businesses, renewable energy generators, professional and environmental organisations and private individuals. We have carefully considered the issues raised in that consultation exercise, and this document lays out our response and our detailed proposals for the Renewables Obligation in England and Wales. A summary of the responses to the Preliminary Consultation has been published and is available from the DTI Publications orderline on 0870 150 2500 or on the internet at <http://www2.dti.gov.uk/renewable/pdf/response.pdf>
2. The Utilities Act requires us to consult with certain bodies, the statutory consultees, before the Order made. We would welcome comments on these detailed proposals from all interested parties, but particularly from consumers and the statutory consultees – the Gas and Electricity Markets Authority, the Gas and Electricity Consumer Council, electricity suppliers and the generators of electricity from renewable sources. **Your views are sought on the Obligation, particularly on the key changes made following the Preliminary Consultation, which are summarised in paragraph 5.**
3. Responses to this statutory consultation must be received by **[28th September 2001]**, ideally by email to RO.consultation@dti.gov.uk , or by post to:

Dr Marilyn Booth,
Department of Trade and Industry,
Room 1116, 1 Victoria Street,
London SW1H 0ET

Please include a name and postal address with any email responses. This document can also be found on the DTI website at <http://www2.dti.gov.uk/consultations/>

4. We will publish all the responses to this consultation that we receive, along with a summary, on the Internet in due course; so any responses not for publication must be marked 'Confidential'. In addition to written responses, we intend to hold a series of meetings with the key stakeholders during September. Invitations will be sent to previous respondents nearer the time and details will be published on the DTI website. Any enquiries about these meetings, or this consultation in general, should be directed to the email address above.

Summary of changes

5. The following changes have been made having taken into account responses to the Preliminary Consultation. The Preliminary Consultation document can be found on the DTI website at <http://www2.dti.gov.uk/renew/ropc.pdf>. For more details regarding the specific proposals, please consult the paragraphs indicated.
 - The Obligation is expected to come into force on 1st January 2002 (paragraph 18)
 - The forecasts for total electricity supply, and for the required contribution from the Obligation have been revised to take account of other changes to the Obligation (paragraphs 23 to 25)
 - Electricity generated from renewable sources outside of the United Kingdom will not be eligible for the Obligation (paragraph 26)
 - Electricity generated from the fossil-derived content of energy-from-waste will not be counted towards the overall renewable energy target and is not eligible towards the Obligation (paragraph 23)
 - Electricity generated from the non-fossil fraction of waste using advanced conversion technologies (such as pyrolysis, gasification and anaerobic digestion) will be eligible for the Obligation (paragraph 29)
 - Electricity generated from biomass (whether energy crops or waste in origin) will be eligible for the Obligation (paragraph 30)

- Electricity generated by stations operational prior to 1st January 1990 will not be eligible for the Obligation, unless re-equipped, with the exception of micro hydro stations (<1.25MW) and co-firing stations(paragraph 33).
- Electricity generated by hydroelectric stations with a capacity greater than 20MW will not be eligible for the Obligation unless they have been commissioned after the date the Order is made (paragraph 28)
- The use of up to 10% fossil fuel is allowed for specified purposes, but the energy derived from the fossil fuel will not be eligible for the Obligation (paragraph 34)
- Co-firing – using fossil fuels alongside biomass – is allowed until 31st March 2011 as a transitional step towards more environmentally benign use of fossil fuels, but may only fulfil up to 25% of a supplier's Obligation (paragraphs 36 & 37). After 31st March 2006, 75% of the energy from the biomass in a co-firing station must come from energy crops.
- The buyout price has been set at 3p/kWh for all eligible technologies, and will be adjusted each year, following the retail price index (paragraphs 45 & 46)
- Up to 25% of a supplier's Obligation may be met by ROCs awarded in the previous period (banking) but no borrowing – bringing forward ROCs from future periods – will be permitted (paragraphs 41 & 42)
- The proceeds of buying out will be returned to suppliers on the basis of the amount of eligible renewable electricity represented by the Renewables Obligation Certificates presented. (paragraph 47)

6. The principal eligible renewables can be summarised thus:

Source	Renewables target	Renewables Obligation
Landfill gas	✓	✓
Sewage gas	✓	✓
Energy from waste	Only the non-fossil derived energy will count towards the renewables targets	Only non-fossil derived energy from non-incineration will be eligible

		for the Obligation
Hydro exceeding 20MW declared net capacity	✓	Only new stations over 20MW
Hydro 20MW or less dnc	✓	✓
Onshore wind	✓	✓
Offshore wind	✓	✓
Biomass, e.g. agricultural and forestry residues	✓	✓
Tidal power	✓	✓
Wave power	✓	✓
Photovoltaics	✓	✓
Co-firing	Only the non-fossil derived energy will count towards the renewables targets	Eligible until 2011 for up to 25% of a supplier's Obligation 75% of biomass fuel to be energy crops from 2006
Energy crops	✓	✓

Renewable Energy

7. Renewable energy, at its most basic level, can be thought of as energy that occurs naturally and repeatedly in the environment. The basic definition of "renewable sources" in the Utilities Act 2000 is "sources of energy other than fossil fuel or nuclear fuel...". Such sources are continuously available, offering potential to help the UK achieve its aims in terms of sustainability of energy supplies. World-wide energy demand continues to increase (currently at a rate of 2% per annum), while the availability of fossil fuel is expected to decline in the longer term and concerns over the potential impact of global warming continue to grow. The sustainability of energy supply can therefore be expected to continue rising up the social, economic and political agenda in the years to come.

8. The most well known renewable energy sources are probably hydro, wind and solar power. However, as the above definition makes clear, Government targets for renewable energy can include energy generated from: *Biofuels* (e.g. all types

of biomass, including the biodegradable fraction of energy from waste, landfill gas, sewage gas, agricultural and forestry residues, and energy crops); onshore and offshore wind; Water (Hydro power, wave power and tidal energy); and Solar energy (both active and passive solar heating as well as Photovoltaics).

9. Renewables have a key role to play in the Government's wider Climate Change programme: these sources generally produce lower (or even negligible) levels of pollutants (e.g. greenhouse gases) than the conventional sources of energy they displace and thus also help the UK to meet its climate change targets. Projections indicate that the use of renewables within the UK could result in an annual saving of around 2.5 million tonnes of carbon emissions in 2010². The recent report by the Royal Commission on Environmental Protection³ also backs up this assumption, and confirms that greenhouse gas abatement will be a key future role for renewables, and that increasing the uptake of renewables has to be a non-negotiable element of future energy use.

Government policy on New & Renewable Energy

10. The Government wants to promote a climate of innovation and to develop the competitive potential of the renewables industry both at home and abroad. The Government's broad policy for new and renewable energy was published as *New & Renewable Energy: Prospects for the 21st Century: Conclusions in Response to the Public Consultation* in February 2000. That document set out a number of aims and targets for renewables based on a thorough review, assessment of the potential for renewables and extensive public consultation.

Policy Aims

11. Essentially, the Government's renewable energy policy has five key aims:

² Department of the Environment, Transport and the Regions. (2000). *Climate Change: Draft UK Programme*. London: DETR

³ Royal Commission on Environmental Protection (2000), *Energy – the changing climate*, London: RCEP <http://www.rcep.org.uk/newenergy.html>

- To assist the UK to meet national and international targets for the reduction of emissions including greenhouse gases;
- To help provide secure, diverse, sustainable and competitive energy supplies;
- To stimulate the development of new technologies necessary to provide the basis for continuing growth of the contribution from renewables into the longer term;
- To assist the UK renewables industry to become competitive in home and export markets and in doing so provide employment;
- To make a contribution to rural development.

Targets

12. The objective is to increase the contribution of electricity supplied in the UK from renewables to 5% of total available electricity by the end of 2003, rising to 10% in 2010, subject to the cost to the consumer being acceptable. The responses to the preliminary consultation in October 2000 suggested that the proposed costs were acceptable to achieve the environmental benefit. At the end of 1999, renewable energy sources represented 2.8% of total electricity generated in the United Kingdom (*Digest of United Kingdom Energy Statistics, 2000*)⁴. It is expected that the England & Wales share of the 5% target will primarily be met by existing capacity and new capacity to be built under Non Fossil-Fuel Obligation (NFFO) 3, 4 and 5 contracts. The new Obligation is expected to stimulate the growth that will be required to make the move from 5% to 10%. The Obligation will remain in force until 31st March 2027 and will provide a guaranteed market for electricity generated from renewable sources until that date.

13. It is estimated that between 36 – 39 TWh of renewable generation will be needed to meet the 10% target in 2010. This represents a substantial increase in the use of renewables - an extra 20 - 23 TWh in addition to that which is expected to be built under NFFO 3, 4 and 5. Renewable energy projects can take up to 6 years

⁴ Department of Trade and Industry, *Digest of United Kingdom Energy Statistics, 2000*. (2000). London: The Stationery Office

from inception through to commissioning. Consequently, it will be in the interests of suppliers and generators to be forward thinking and to recognise the long lead times of many of the renewable resources they will need to deploy.

Policy Instruments

14. In the past, the Government's principal renewables policy instrument has been the Non Fossil Fuel Obligation (NFFO) and analogous Scottish Renewable Obligation (SRO) and Northern Ireland Non Fossil Fuel Obligation (NI-NFFO) arrangements, which succeeded in creating an initial market for renewables. The Renewables Obligation moves away from the NFFO approach and reflects the Government's belief that the way forward is to create the market conditions for a thriving, dynamically competitive renewables industry. Its introduction means that there will be no further NFFO orders. Instead, all licensed electricity suppliers in England and Wales will be subject to the Renewables Obligation (RO), and in Scotland to the Renewables Obligation (Scotland), (ROS).
15. The new Obligation is one of a series of measures to promote the development of renewables. Other policy strands include:
- Exemption of renewables electricity from the Climate Change Levy;
 - A supporting programme of research, development and technology transfer, with assistance to overcome non-technical barriers to deployment;
 - Development of regional strategies for renewable energy, with regional targets based on resource assessments, and a review of planning arrangements;
 - Capital grants for longer term technologies including offshore wind and energy crop projects;
 - A photovoltaic roofs market stimulation programme;
 - The Performance and Innovation Unit's study into resource productivity and renewable energy in the long-term (to 2050).

Each of these policy developments is discussed in detail at Annex C.

Timetable

16. Assuming prior State Aid approval, the Obligation will come into force on the first day of the month immediately following approval of the Order by Parliament, and the first period will last until 31st March 2003. Following the close of the Statutory Consultation on 28th September, the responses will be considered and any necessary amendments made to the draft Order. It is then hoped to lay the Order before Parliament in the autumn. The Order will require approval by both Houses of Parliament before coming into effect.

17. The Obligation is likely to be considered to be State Aid, and we are currently negotiating clearance from the European Commission. If State Aids approval is required, this may cause some delay to the introduction of the Obligation and/or changes to be made to it. The Obligation may require changes in due course in order to comply with the proposed European Directive on promotion of electricity from renewable energy sources that is currently being considered by the European Parliament. The Obligation will not be delayed by discussions on the proposed Directive, which would require later incorporation into UK legislation.

2. The Renewables Obligation

Implementation date

18. Due to the early dissolution of Parliament, it will not be possible to lay the Renewables Obligation Order before Parliament until the autumn session, which is expected to commence in October. We hope that the Order will be able to complete the Parliamentary process during November. It is intended that the Order will come into effect on 1st January 2002.
19. Obligation periods will be a year long, from 1st April to 31st March. The first period of the Obligation will run from 1st January 2002 until 31st March 2003.

The Government's commitments

20. The Government is committed to the Obligation in order to see investment in existing and new renewable energy generating capacity. In order to give the necessary confidence for investment, we want to assure the renewables industry that, once the Obligation is in place, the Government does not intend to:
- Lower the buyout price during the time that the Obligation remains in force;
 - Reduce the size of the Obligation as long as it remains in force;
 - Curtail the duration of the Obligation.
21. It should be noted, however, that each Parliament remains sovereign and may repeal or amend legislation. The Obligation will be subject to any changes in UK law brought about to comply with European Union Directives, or any changes required to obtain or maintain State Aid clearance. A Directive on Renewable Energy is currently being considered by the European Parliament and is expected to be adopted later in the autumn. Whilst every effort has been made to ensure that the Obligation is compatible with the draft Directive, some areas may be subject to change, most notably the eligibility of energy-from-waste and large hydro.

Role of Ofgem

22. Ofgem will be responsible for:

- Accrediting generators who meet the requirements of eligible generation;
- Issuing ROCs;
- Assessing and policing the extent of compliance by suppliers;
- Calculating and announcing the annual buy out price following its adjustment in line with the retail prices index;
- Collecting the buyout payments due from suppliers;
- Distributing the proceeds of the buyout amongst compliant suppliers;
- Providing an annual report to the Secretary of State on compliance with the Obligation.

Ofgem will be publishing their draft procedures for the Obligation shortly.

Basis of calculating

23. The Obligation for each supplier is calculated by applying a percentage obligation to the defined base supply. The Government's renewable energy targets are based on the **total electricity available** in the UK, with 10% of total electricity available coming from renewable sources by 2010⁵. With the total electricity available in GB being forecast at 387.9 TWh by 2010, some 38.8TWh would come from renewable sources. This 38.8 TWh will include electricity from renewable sources that are not eligible for the Renewables Obligation, such as existing large hydro and some forms of energy-from-waste. We estimate that these non-eligible renewables will account for 5.2TWh by 2010, giving a total Obligation of 33.6TWh.

24. The Obligation will be based on **total electricity sales** to customers in England & Wales, and so does not include electricity consumed by autogenerators (those who generate their own electricity on-site) and electricity losses on the distribution network. If the total electricity sales in Great Britain in 2010 are

⁵ We propose that the electricity derived from the fossil fuel element of energy-from-waste (such as plastics etc) will not count towards the overall renewable energy targets, as was proposed in the Preliminary Consultation.

forecast at 324.3TWh, an Obligation rate of 10.4% will be required to give 33.6TWh of eligible renewable electricity. A common Obligation profile is proposed for both Scotland and England & Wales. The table below sets out the forecasts of electricity supply and the Obligation across Great Britain for the period up to 2010.

Period	Estimated sales by licensed suppliers	Estimated autogeneration consumption	Estimated losses	Estimated total electricity available (GB)	Renewables target (GB)	Renewables target (GB)	Non-eligible contribution	Contribution from Obligation	RO as % of sales (GB)
	TWh	TWh	TWh	TWh	%	TWh	TWh	TWh	%
1999/2000	301.8	21.3	27.7	350.8					
2000/2001	307.0	22.4	28.6	358.0			5.8		
2001/2002	310.9	23.8	28.7	363.4			5.6		
2002/2003	313.6	25.1	28.6	367.3	4.0	14.7	5.3	9.4	3.0
2003/2004	316.2	26.4	28.6	371.1	5.0	18.6	5.1	13.5	4.3
2004/2005	318.7	27.7	28.5	374.9	5.5	20.6	5.0	15.6	4.9
2005/2006	320.6	29.2	28.4	378.2	6.0	22.7	5.0	17.7	5.5
2006/2007	321.4	30.6	28.1	380.2	7.0	26.6	5.1	21.5	6.7
2007/2008	322.2	32.1	27.9	382.2	8.0	30.6	5.2	25.4	7.9
2008/2009	323.0	33.5	27.7	384.1	9.0	34.6	5.2	29.4	9.1
2009/2010	323.8	34.8	27.4	386.0	9.5	36.7	5.2	31.5	9.7
2010 & beyond	324.3	36.0	27.5	387.9	10.0	38.8	5.2	33.6	10.4

25. Whilst the above table shows the Obligation remaining constant at 10.4% of total electricity sales after 2010, it is likely that the Obligation will increase after 2010. The success of the Obligation in meeting the Government's renewable energy and carbon dioxide emissions targets will be reviewed throughout the lifetime of the Obligation in the light of the latest information on climate change. Future increases to the Obligation may be brought forward through an amendment to the Renewables Obligation Order but, as explained in paragraphs 20 and 21 above, there are no plans to reduce the size of the Obligation as long as it remains in force.

Electricity generated outside of the United Kingdom

26. In order to be eligible for the Obligation, electricity from an eligible renewable source must be generated in the UK and must be physically supplied to customers in Great Britain. Where electricity from an eligible renewable source is generated outside of the United Kingdom and supplied to customers in Great

Britain, that electricity will not be eligible for the Obligation. Electricity generated from eligible renewable sources in Northern Ireland will be eligible to discharge a supplier's Obligation in England & Wales once a physical link has been commissioned that enables electricity generated in Northern Ireland to be supplied to customers in Great Britain. Electricity generated subject to a qualifying arrangement under the Northern Ireland Non-Fossil Fuel Obligation (NI-NFFO) will not be eligible for the Obligation.

Eligible technologies

27. The Preliminary Consultation proposed that all sources of renewable energy would be eligible, with the exception of large hydro⁶ and energy-from-waste⁷ on the grounds that these sources are already commercially viable and well established in the market place.
28. The majority of responses to the Preliminary Consultation supported the exclusion of large hydro stations, which were constructed under public ownership. Concern was expressed by the industry over the age of current stations and the need to refurbish them. We propose that existing stations over 20MW would be excluded from the Obligation, but that any stations newly commissioned following the date of the Order coming into force would be eligible. We believe that these measures will encourage the refurbishment of existing stations and will support any future schemes, if planning permission can be secured.
29. Over 60% of respondents to the Preliminary Consultation commented on the question of energy-from-waste, with the majority opposing the proposed exclusion from the Obligation. One of the concerns expressed was that the development of more advanced and/or environmentally beneficial technologies would be inhibited. These technologies, including pyrolysis, gasification and anaerobic digestion, will play an important role in the future of electricity generation using energy crops. By and large, they require pre-separation of

⁶ Large hydro in this context refers to hydroelectric stations with a declared net capacity exceeding 10MW

⁷ Energy recovery from municipal solid waste (MSW) and from mixed streams of industrial and commercial waste (ICW).

recyclable material from the waste stream and are well suited for community-sized developments. We therefore propose to include these new technologies (which use thermal or biological processes to convert the waste into a fuel oil or gas, which is then burnt) within the Obligation. Mixed waste may be used as the feedstock for such stations but only the output attributable to non-fossil derived material would be eligible.

30. A second concern was expressed regarding the distinction between some forms of waste and biomass. Sawdust, for example, could be considered under certain circumstances as biomass, a forestry residue, and under other circumstances as an industrial waste, say from a furniture factory. In order to eliminate such anomalies we propose that all energy derived from purely non-fossil derived material⁸ – whether waste or biomass – would be eligible for the Obligation, regardless of the energy conversion technology used (including incineration).
31. Under these revised proposals, the incineration of household waste would still not be eligible for the Obligation. Whilst arguments have been made for the eligibility of incineration of unseparated waste, we do not believe that the Government should encourage waste incineration through the Renewables Obligation. This approach is consistent with the Government's support for waste reduction, recycling and reuse as described in the Government's Waste Strategy 2000, whilst supporting the development of more efficient and environmentally benign energy conversion from biomass.
32. The table below illustrates the proposed eligibility of energy-from-waste:

	Mixed wastes	Waste purely non-fossil derived	Biomass
Incineration	Ineligible	Eligible ⁸	Eligible
Pyrolysis, gasification, anaerobic digestion etc	Only non-fossil derived energy eligible	Eligible ⁸	Eligible

⁸ Subject to a 2% fossil-derived content de minimis to allow for accidental contamination. If the output from fossil-derived content exceeded 2% in any one year, none of the electricity from that station would be eligible for the Obligation in that year.

Eligible stations

33. We are concerned that consumers may have to bear additional 'deadweight' costs from stations that are fully depreciated – that is, all the capital costs have been repaid over some time. We want to ensure that such stations do not inhibit the development of new renewable generation capacity. We therefore propose to exclude stations built or re-equipped before 1st January 1990 from the Obligation, with the exception of co-fired stations described in paragraph 36. This would mean that some stations built under NFFO 1 & 2 contracts would still be eligible for the Obligation. Micro hydro stations, with a declared net capacity of 1.25MW or less, will be eligible for the Obligation, regardless of their date of first operation.
34. We are aware that some generating stations require small amounts of fossil fuel use for the purposes of igniting gases of low or variable calorific value, heating the combustion system to its normal operating temperature and maintaining that temperature, or for emissions control. Such use is permitted provided that the energy content of the fossil fuel does not exceed 10% of the energy content of the renewable fuel used in any one year. Only the non-fossil derived output will attract ROCs.
35. Where a station uses fossil fuel for other than these purposes, or where the 10% fossil fuel limit is exceeded, then the station will be considered to be co-fired, as described below, and subject to the restrictions on such stations.
36. We recognise that stations that are powered by both a fossil-derived fuel and biomass (known as co-firing) may have an important role to play in helping to develop energy crops, and in delivering renewable energy capacity quickly at relatively low cost. In a co-fired station, biomass would displace some of the fossil fuel feedstock, but there is a concern that overall carbon dioxide emissions could increase if the eligibility of co-firing for the Obligation altered the current balance of fossil fuels used in electricity generation. We therefore propose that the output from co-fired stations can only be used to fulfil up to 25% of an individual supplier's Obligation. In order to ensure that the energy crops supply chain is established, the biomass used in co-firing must comprise of at least 75% energy crops from 1st April 2006.

37. We believe that co-firing is a transitional step towards cleaner coal technologies and other more environmentally benign forms of fossil-derived power. In order to develop an early market for energy crops, we propose that a co-fired station would be eligible for the Obligation until 31st March 2011. For example, a coal-fired power station built prior to 1st January 1990 that also used wood pellets would be eligible for the Obligation on the renewable element of the output, but only until 31st March 2006 after which the biomass must be at least 75% energy crops.

38. As outlined above in paragraph 26, stations located outside of the United Kingdom would not be considered eligible for the Obligation.

Awarding of ROCs

39. Renewables Obligation Certificates (ROCs) will be issued as evidence that electricity from an eligible renewable source has been supplied to customers in Great Britain. In order for ROCs to be issued, the generating station that generated the electricity must be accredited by Ofgem to ensure that the electricity generated meets the eligibility criteria for the Obligation. A declaration must also be received that the electricity generated has been sold on the basis that it has been supplied to customers in Great Britain. A supplier may discharge the Obligation by buying ROCs from generators or third-party traders.

40. ROCs will be issued in multiples of 1MWh and will be passed to the operator of the generating station. Each certificate will have a unique number and will detail the generating station and the period in which the electricity was generated.

Banking & Borrowing

41. The Preliminary Consultation outlined proposals for banking up to 50% of a supplier's Obligation. The majority of comments received expressed the view that the 50% limit was too high, and could encourage market manipulation. Some suggested that a 10% limit would be more appropriate, but we believe that a 10% limit would be too restrictive, particularly given no borrowing. We therefore propose that up to 25% of a supplier's Obligation can be met by ROCs issued in the previous period.

42. Opinion on borrowing was more divided, with some expressing a concern that allowing borrowing would, in effect, reduce the overall size of the Obligation by

the amount of borrowing allowed. Borrowing could encourage speculation and manipulation of the ROC market place. Suppliers would have other forms of fulfilling the Obligation – through buying ROCs from generators or third-party traders, or by paying the buyout price. We do not believe that an additional way of complying is required and we therefore propose not to allow any borrowing.

Presenting of ROCs

43. Before the specified day for each Obligation period, which will be 1st October following the period, suppliers must present their evidence that they have fulfilled their Obligation to Ofgem. That evidence will take the form of ROCs and/or evidence of payment of the buy out.

Buying out

44. Suppliers may buy out part or all of the Obligation and the buyout payment must be made before the specified day. If a supplier fails to present evidence of fulfilling the Obligation, either through ROCs or through paying the buy out, by the specified day, they will be considered in breach of a 'relevant requirement' within the meaning of section 25 of the Electricity Act 1989. Ofgem will thereafter decide whether to impose a financial penalty, subject to their current Statement of Policy with respect to Financial Penalties, and will follow the current process for dealing with financial penalties.
45. The buyout price for the first period, from the introduction of the order until 31st March 2003, will be 3p/kWh. Thereafter, the price will be adjusted on an annual basis in line with changes in the retail price index, and Ofgem will announce the revised price. The buyout price, in effect, sets a cap on the maximum cost to the consumer at 3p/kWh, over and above the base cost of electricity.
46. In the Preliminary Consultation, we sought views on whether the Obligation should be banded, setting different buy out prices for different sources of renewable energy. There was no clear consensus in the responses we received. We believe that such banding of the Obligation would be too rigid an approach for a long-term policy such as the Obligation, and would require the Government to dictate the contribution of each energy source towards the Obligation. This approach would be contrary to the market-led basis of the Obligation. It would

remove the essential ingredient of competition between renewable energy technologies, and we therefore do not propose to band the Obligation.

Recycling of buyout

47. The proceeds of buying out will be recycled back to suppliers who have complied with the Obligation, on the basis of recycling in proportion to the amount of eligible electricity supplied represented by the ROCs presented by each supplier, compared to the total amount of eligible electricity supplied. If the total amount of eligible electricity supplied in a period is equivalent to 25TWh, a supplier who presents ROCs relating to 2.5TWh would receive 10% ($2.5\text{TWh} \div 25\text{TWh}$) of the total buyout funds received in that period. If a supplier chooses to buy out part or all of the Obligation, it will not receive any recycling of the buyout funds for the proportion that it has bought out.

State Aid Clearance

48. The Renewables Obligation is likely to be considered State Aid by the European Commission and may require clearance of the scheme, especially the buyout recycling mechanism, before implementation.

Annex A: The Renewables Obligation draft order

DRAFT STATUTORY INSTRUMENTS

2001 No.

ELECTRICITY, ENGLAND AND WALES

The Renewables Obligation Order 2001

Made - - - - - 2001

Coming into force [1st January 2002]

The Secretary of State, in exercise of the powers conferred on her by sections 32 to 32C of the Electricity Act 1989⁽⁹⁾ and having consulted the Gas and Electricity Markets Authority, the Gas and Electricity Consumer Council, electricity suppliers to whom this Order applies, generators of electricity from renewable sources and such other persons as he considers appropriate, hereby makes the following Order:—

⁽⁹⁾ 1989 c.29. Section 32 of the Electricity Act 1989 was substituted for the section 32 originally enacted by section 62 of the Utilities Act 2000 (c.27). Sections 32A to 32C of the Electricity Act 1989 were inserted by sections 63 to 65 respectively of the Utilities Act 2000.

Citation, commencement and extent

1.—(1) This Order may be cited as the Renewables Obligation Order 2001 and shall come into force on [1st January 2002].

(2) This Order extends to England and Wales only.

Definitions

2.—(1) In this Order—

“the Act” means the Electricity Act 1989;

“biomass” means fuel (other than fossil fuel) of which at least 98% of the energy content is derived from plant or animal matter or substances derived therefrom (whether or not such matter or substances are waste) and includes agricultural, forestry or wood wastes or residues, sewage and energy crops;

“co-firing generating station” means a generating station fuelled partly by fossil fuel and partly by renewable sources (and for this purpose the term “fossil fuel” does not include any fossil fuel derived component of waste), but does not include a minimal fossil use generating station;

“declared net capacity” [in relation to a hydro generating station] means the highest generation of electricity (at the main alternator terminals) which can be maintained indefinitely without causing damage to the plant less so much of that capacity as is consumed by the plant;

"designated electricity supplier" means any electricity supplier supplying electricity in England and Wales; ⁽¹⁰⁾

"eligible renewable sources" has the meaning given to it in article 8;

"energy crops" means a plant crop (including trees) where one of the primary purposes of growing it is for it to be used as fuel for electricity generation;

"hydro generating station" means a generating station which is wholly or mainly driven by water including a station driven by tidal flows, waves, ocean currents or geothermal sources and the "station" extends to all structures and works for holding or channelling water for a purpose directly related to the generation of electricity together with any turbines and associated generators directly connected to or fed by such common structures or works;

"large hydro generating station" means a hydro generating station with a declared net capacity of more than 20 megawatts;

"main components" means any of the following parts of a generating station: combustion equipment; boilers; cooling towers; pressure vessels; turbines (driven by any means including wind, water, steam or gas); or electrical generators;

⁽¹⁰⁾ Note: (1) The term "electricity supplier" is defined in new section 6(9) of the Electricity Act 1989 and therefore bears the same meaning in this definition (see section 11 of the Interpretation Act 1978). (2) The current proposal is that no suppliers should be excepted from the renewables obligation.

"micro hydro generating station" means a hydro generating station with a declared net capacity of or less than 1.25 megawatts provided that the generating station [has always been in private ownership and has never generated electricity supplied or to be supplied under a qualifying arrangement;

"minimal fossil use generating station" means a generating station which uses fossil fuel (and for this purpose the term "fossil fuel" does not include any fossil fuel derived component of waste) only for one or more of the following purposes:

- the ignition of gases of low or variable calorific value;
- the heating of the combustion system to its normal operating temperature or the maintenance of that temperature; or
- emission control

and where in any obligation period the energy content of the fossil fuel used for the above purposes does not exceed 10 per cent. of the energy content of the renewable sources used (and for this purpose the term "renewable sources" includes any fossil fuel derived component of waste);

"obligation period" means any of the periods referred to in the first column of the Schedule to this Order;

"qualifying arrangement" means

"specified day", in relation to an obligation period, means the following [1st October];

"waste" has the meaning given in section 75(2) of the Environmental Protection Act 1990b as that subsection will have effect once it has been amended by paragraph 88 of Schedule 22 to the Environment Act 1995^c, but does not include gas derived from landfill sites or gas produced from the treatment of sewage^d.; and

the expression "the United Kingdom" includes [the territorial sea of the United Kingdom and waters in any area designated under section 1(7) of the Continental Shelf Act 1964^e].

(2) Unless the context otherwise requires any reference in this Order to a numbered article is a reference to the article in this Order bearing that number and any reference in an article to a numbered paragraph is a reference to the paragraph of that article bearing that number.

The renewables obligation

3. —(1) The renewables obligation is that, subject to articles 6 and 7, each designated electricity supplier shall before each specified day produce to the Authority the evidence referred to in article 4 showing—

(a) that it has supplied to customers in Great Britain during the obligation period to which the specified day relates such amount of electricity generated from eligible renewable sources as is determined under article 5; or

(b) that another electricity supplier has done so (or that two or more others have done so); or ⁽¹¹⁾

(c) that, between them, they have done so.

(2) In respect of any obligation period, no more than 25 per cent of a designated electricity supplier's renewables obligation may be satisfied by the production of evidence relating to electricity generated by a co-firing generating station.

Evidence of compliance with the renewables obligation

4.—(1) The evidence referred to in article 3 is a certificate or certificates issued by the Authority under section 32B of the Act, (a renewables obligation certificate (a "ROC")) ⁽¹²⁾.

(2) A certificate under section 32B of the Act shall be issued by the Authority to the operator of a generating station where the Authority is satisfied that each of the following criteria are met—

(a) [the Authority has previously confirmed in writing to the operator of the generating station to which the ROC relates that the generating station is [accredited as being a generating station generating from eligible renewable sources] and the Authority has not withdrawn that accreditation;]

⁽¹²⁾ This includes Scottish ROCs

(b) [the Authority is satisfied of the amount of electricity which has been generated by the generating station to which the ROC relates from eligible renewable sources and when such electricity was generated;]

(c) [the operator of the generating station has provided the Authority with a declaration in the form required by the Authority from time to time that such electricity has been supplied to customers in Great Britain;]

(d) [in the case of electricity generated in Northern Ireland;] and

(e) [paragraph (3) does not apply].

(3) [The Authority shall not be obliged to issue a ROC or ROCs to the operator of a generating station in any case where the Authority—

(a) is not satisfied as to the reliability or truthfulness of the information being presented to it in order to claim the ROC;

(b) where it considers that to issue a ROC might result in more than one ROC being issued in relation to the same electricity; or

(c) [other circs?].

(4) [The Authority may, at any time before a ROC has been accepted by it as evidence of compliance with a designated electricity supplier's renewables obligation, cancel or revoke a ROC where the Authority is no longer satisfied that such ROC should have been issued, or where the Authority has reasonable doubts as to the validity of the information in reliance upon which the ROC was issued, or where the Authority has been unable due to default by others to check the validity of either the ROC itself or the information in reliance upon which it was issued.]

The amount of the renewables obligation

5.—(1) The amount of electricity referred to in article 3(1)(a), in respect of an obligation period, is such amount of electricity as equals the relevant percentage of all the electricity supplied by the designated electricity supplier to customers in England and Wales during the obligation period.

(2) In paragraph (1) the “relevant percentage” means, in respect of an obligation period, the percentage set out in the second column of the Schedule to this Order against the reference to that obligation period in the first column of the Schedule.

[For the purposes of paragraph (1) the figures for the designated electricity supplier's electricity supplies are [the estimated figures for such supplies provided under the Balancing and Settlements Code, estimated as at the 1st August following the obligation period in which the electricity was supplied]. *[Note: I need some technically correct and precise wording to replace the wording in square brackets.]*

(4) [Each designated electricity supplier should before [1st August] each year inform the Authority of the amount in kilowatt hours of its renewables obligation and the amount of all electricity supplied by that designated electricity supplier to customers in England and Wales during the last obligation period which ended before the [1st August] in question.

Electricity generated in earlier obligation periods

6. A designated electricity supplier may discharge up to 25 per cent of its renewables obligation in respect of an obligation period by producing to the Authority ROCs which would comply with the requirements of articles 3 and 4 except that the electricity to which the ROC relates was generated in the immediately preceding obligation period .

Alternative way of discharging renewables obligation: payments

7.—(1) Instead of producing evidence pursuant to article 3, a designated electricity supplier may discharge (in whole or in part) its renewables obligation in relation to a particular obligation period by making a payment to the Authority before the specified day relating to that obligation period.

(2) Subject to paragraphs (3) to (5), the payment to be made under paragraph (1) ("the buy-out price") is three pence for each kilowatt hour of electricity generated from eligible renewable sources for which the designated electricity supplier fails to produce evidence under article 3.

(3) [If, in the case of any calendar year beginning with 2002, the average of the retail prices index for the twelve months in that year ("the later year") is higher or lower than the average of the index for the twelve months in the previous year, the buy-out price relating to the obligation period beginning on the 1st April following the later year shall be—

(a) increased, if the index is higher, or

(b) decreased, if the index is lower,

by the same percentage as the amount of the increase or decrease of the index.]

(4) When the buy-out price is calculated under paragraph (3) the result shall be rounded to the nearest one tenth of a per centum (any odd one twentieth of a per centum being rounded upwards).

(5) In this article "the retail prices index" means—

(a) the general index of retail prices (for all items) published by the Office of National Statistics; or

(b) where the index is not published for a month, any substituted index or figures published by that Office.

Eligible renewable sources

8.—(1) Electricity shall be considered to have been generated from eligible renewable sources to the extent that it has been generated from renewable sources and provided that it has not been generated by an excluded generating station as specified in paragraph (2).

(2) The following shall be excluded generating stations:

(a) large hydro generating stations⁽¹³⁾ except those commissioned after the date this Order comes into force;

⁽¹³⁾ Note – definition changed to up to and including 20MW

(b) hydro generating stations where at any time the amount of electricity generated by the station is increased due to the flow rate, height or pressure of water being artificially increased as a result of pumping, save where that pumping is powered by the generating station itself;

(c) generating stations which [generate electricity from the burning of any fuel which is not biomass, unless that fuel has first been changed into another form by thermal or biological action and electricity is generated from [burning?] the fuel in its changed form];

(d) generating stations (other than co-firing generating stations and micro hydro generating stations) where any of the main components were used for the purpose of electricity generation prior to 1st January 1990;

(e) micro hydro generating stations where any of the main components were used for the purpose of electricity generation prior to 1st January 1980;

(f) generating stations located outside the United Kingdom;

(g) before 1st April 2006, co-firing generating stations fuelled by any renewable source which is not biomass;

(h) after 31st March 2006, co-firing generating stations fuelled by any renewable source which is not biomass and where in the relevant obligation period the electricity generated from energy crops is less than 75 per cent of the electricity generated from biomass;

(i) after 31st March 2011, co-firing generating stations; and

(j) generating stations which have generated electricity supplied under the arrangements or additional arrangements referred to in article 35(1) of the Electricity (Northern Ireland) Order 1992⁽¹⁴⁾.

(3) Reference in paragraph (2)(c) to a fuel being changed into another "form" means that where the fuel was originally in either solid, liquid or gaseous form, it must have been changed into a different one [or more] of [those] form[s].

Calculation of amount of electricity generated from eligible renewable sources

9.—(1) Where a generating station is fuelled by a mixture of any of the following fuels:

- (a) fossil fuel;
- (b) substances derived from fossil fuel (including any fossil fuel derived component of waste); or
- (c) renewable sources;

the proportion of electricity which is to be treated as having been generated from eligible renewable sources shall be calculated in accordance with paragraphs (2) to (6).

⁽¹⁴⁾ S.I. 1992/231 (N.I.1)

(2) In the case of generating stations fuelled wholly or partly by biomass, 98 per cent. of the electricity generated from biomass in the relevant obligation period shall be treated as having been generated from eligible renewable sources unless the operator of the generating station satisfies the Authority that a greater proportion of the energy content of the biomass derives from such plant or animal substances, in which case that greater proportion shall be treated as having been generated from eligible renewable sources.

(3) In the case of generating stations fuelled wholly or partly by waste, only the proportion of electricity generated from waste which is not fossil fuel or derived therefrom shall be treated as having been generated from eligible renewable sources in the relevant obligation period.

(4) In the case of co-firing and minimal fossil use generating stations the proportion of electricity generated from fossil fuel shall not be treated as having been generated from eligible renewable sources.

(5) In the cases of electricity generated from fuel which purports to be biomass by:

(a) a generating station which generates electricity from the burning of such fuel;
or

(b) a co-firing generating station;

if in the relevant obligation period more than 2 per cent of the energy content of the purported biomass fuel derives from substances other than the plant or animal matter or substances contained in the definition of biomass, then none of the electricity

generated from such purported biomass fuel shall be treated as having been generated from eligible renewable sources in that obligation period.

(6) In the case of electricity generated by a co-firing generating station after 31st March 2006, if in the relevant obligation period less than 75 per cent of the electricity generated from biomass derives from energy crops, then none of the electricity generated from biomass shall be treated as having been generated from eligible renewable sources in that obligation period.

(7) In the case of a hydro generating station where the amount of electricity generated by the station has been increased due to the flow rate, height or pressure of water being artificially increased as a result of pumping which is powered by the generating station itself, the amount of electricity which shall be treated as having been generated from eligible renewable sources shall be the total amount of electricity generated by the station less the amount of electricity used for pumping.

Provision of information to the Authority

10.—(1) The Authority may require a designated electricity supplier to provide it with [such information/such information of the kinds listed in paragraph [...]] in such form as it may require which is in its opinion relevant to the question whether the supplier is discharging, or has discharged, its renewables obligation in relation to any obligation period.

[The Authority may require any person who generates, supplies, distributes or transmits electricity in relation to which a ROC has been or may be issued, or any person who buys or sells such electricity or ROCs (otherwise than as a consumer) to provide the Authority with such information And in such form as it may require in order to carry out any of its functions under this order.

Allocation of payments made under article 7

11.—(1) Subject to paragraph (4), the Authority shall pay the amounts received by it under article 7 in respect of an obligation period ("the relevant obligation period"), together with any interest earned thereon by the Authority, by the [1st December] following that obligation period in accordance with the system of allocation specified in paragraph (3).

(2) The aggregate of the amounts received by the Authority under article 7 in respect of a relevant obligation period, together with any interest earned thereon by the Authority, is referred to in this article as "the buyout fund".

(3) The buyout fund relating to a relevant obligation period shall be divided amongst each of those designated electricity suppliers who, in respect of that period, has complied (in whole or in part) with its renewables obligation by producing to the Authority evidence pursuant to article 3 (ROCs) and has discharged all of any remainder of its obligation by making a payment under article 7 so that each such supplier receives that proportion of the buyout fund which is equal to the proportion which the electricity he has produced evidence of pursuant to article 3 in respect of the relevant obligation period bears to the total of the electricity of which evidence has been produced pursuant to article 3 in respect of that period.

(4) Where (due to fraud or otherwise) a ROC (or what purports to be a ROC) has been produced to the Authority pursuant to article 3 by more than designated electricity supplier once in respect of the same electricity, the Authority shall retain from the buyout fund an amount which equates to that electricity (together with any interest earned on that amount by the Authority) until it determines to what extent and who is entitled to have the ROC treated as evidence of compliance (in whole or in part) with its renewables obligation. The Authority shall then pay the amount retained (an any associated interest) to that designated electricity supplier.

Functions of the Authority

12. In addition to the functions referred to elsewhere in this Order, the Authority shall have the following functions—

(a) [providing (subject to such conditions as it considers appropriate) the accreditation to operators of generating stations referred to in article 4(2)(a) (and the function of withdrawing such accreditation or altering any conditions attached to it)];

(b) [revoking a ROC [if the ROC has been obtained by fraud or is inaccurate] [under the circumstances described in article 4(4)];]

(c) calculating and publishing the amount of the payment per kilowatt hour of electricity referred to in article 7 resulting from the adjustments made to reflect increases in the retail prices index;

(d) providing the Secretary of State with an annual report on the compliance of designated electricity suppliers with their obligations under this Order [within [3] months of the end of each obligation period];

policing compliance by designated electricity suppliers with this Order and compliance by operators of generating stations with this Order and any conditions attached to their accreditation, and such policing may include;

conducting enquiries or investigations into trading of ROCs or quantities of electricity supplied or generated.

Minister for Energy and Competitiveness in Europe,

2001

Department of Trade and Industry

AMOUNT OF THE RENEWABLES OBLIGATION

<i>Obligation period</i>	<i>Percentage of total supplies</i>
[1st January 2002] to 31st March 2003	[3.0]
1st April 2003 to 31st March 2004	[4.3]
1st April 2004 to 31st March 2005	[4.9]
1st April 2005 to 31st March 2006	[5.5]
1st April 2006 to 31st March 2007	[6.7]
1st April 2007 to 31st March 2008	[7.9]
1st April 2008 to 31st March 2009	[9.1]
1st April 2009 to 31st March 2010	[9.7]
1st April 2010 to 31st March 2011	[10.4]
Each subsequent period of twelve months ending with the period of twelve months ending on 31st March 2027	[10.4]

Annex B: Regulatory Impact Assessment

49. This is the second draft of the Regulatory Impact Assessment (RIA) of the Renewables Obligation Order 2001.
50. The purpose of this RIA is to assess the impact of the Renewables Obligation. The Obligation has been appraised for its potential impact on the environment, particular groups of society and business. Relevant cost and benefit information has been included where appropriate. The environmental benefits have been estimated and quantified in terms of carbon savings.
51. This assessment follows a Preliminary Consultation exercise conducted in October 2000 and reflects the responses received. A summary of the consultation document is available from <http://www2.dti.gov.uk/renew/ropc.pdf> and a summary of responses received has also available from <http://www2.dti.gov.uk/renewable/pdf/response.pdf>.

Purpose and Intended Effect of the Measure

Issue

52. Climate change is considered to be one of the greatest environmental threats facing the world. Scientists estimate that global average temperatures will rise by between 1.4°C and 5.8°C over the next 100 years if no action is taken to reduce the greenhouse gas emissions that cause climate change. This rate of warming is greater than any since the last Ice Age, 10,000 years ago. Climate change is likely to have far reaching effects on all aspects of the world's environment, economy, society and health. In the UK, temperatures could rise by a further 3°C by 2100; rainfall could increase by as much as 10% over England and Wales and 20% over Scotland by the 2080s and changes to the seasons are expected. Higher temperatures in the UK might also exacerbate the effects of air pollutants, particularly in the summer months.
53. In response to the threat of climate change, developed countries agreed at Kyoto in December 1997 to legally binding targets which will reduce their emissions of the six main greenhouse gases by 5.2% below 1990 levels over the period 2008-

2012. The European Union and its member states agreed to an 8% reduction. In June 1998, member states agreed to share out the EU's target and the UK agreed to cut its emissions by 12.5%. The Government also has a more challenging domestic goal of a 20% reduction in carbon dioxide emissions below 1990 levels by 2010. The devolved administrations have also adopted this goal.

54. Kyoto was only the start of a longer-term process. The Intergovernmental Panel on Climate Change has confirmed that it will be necessary to stabilise greenhouse gas emissions if damaging climate change is to be avoided. Further cuts in emissions will be needed and the challenges of meeting future targets can not be overstated.

Objective

55. The UK Climate Change Programme proposes a package of policies and measures that will deliver the UK's legally binding target from Kyoto to cut greenhouse gas emissions and move towards its domestic goal. Stimulating new, more efficient and lower carbon sources of power generation is an important part of the package. The main means of stimulating an increase in the proportion of electricity supplied from renewable energy sources will be the obligation on electricity suppliers to procure sufficient supplies from such sources, consistent with a total supply of renewables of 10% by 2010, subject to the cost to consumers being acceptable.
56. The programme will act as the framework for a long term, comprehensive strategy on climate change for the UK as a whole. It also looks beyond the Kyoto commitment period of 2008 - 2012 and uses the domestic goal as the spur for further action to cut emissions that will see the UK onto a more sustainable path by encouraging a move to a lower carbon economy. Moving towards the domestic goal will also enable the UK to ensure that it will be better placed to meet future, more difficult, targets. It will send a strong signal to the international community that the UK is leading by example; and it will help safeguard the competitiveness of UK firms by encouraging a more energy efficient industry and by stimulating the development of new environmentally-friendly technologies.
57. The purpose of the Renewables Obligation within this programme is to specifically encourage the uptake of renewable power generation sources by the

electricity supply industry by developing the market for electricity from renewable sources, and to reduce emissions of greenhouse gases.

Risk Assessment

58. The full implications of allowing climate change to happen at its current rate are not fully known but scientists believe that the net effect will be detrimental. Initial work by the UK's Hadley Centre has indicated that globally:

- ◆ Sea levels are expected to rise by over 40 centimetres by the 2080s causing sweeping changes to coastal communities and environments and the dislocation of millions of people;
- ◆ By the 2070s, large parts of Northern Brazil and central southern Africa could lose their tropical forests;
- ◆ Climate change could affect global food supplies. Africa is expected to experience significant reductions in cereal yields, as are the Middle East and India;
- ◆ An additional three billion people could suffer increased water shortage. Northern Africa, the Middle East and the Indian subcontinent will be the worst affected; and
- ◆ Climate change could expose an additional 290 million people to the risk of malaria - with China and Central Asia likely to see the largest increase in exposure.

59. The potential effects of climate change in the UK were assessed in 1996. The review concluded that, although some sectors could benefit from climate change, for example forestry, some forms of agriculture and tourism, climate change would;

- ◆ Adversely effect UK's water resources and cause more flooding and property damage, affecting not only people but sectors like the insurance industry;
- ◆ Harm people's health through the spread of disease;

- ◆ Cause soils - the foundation of natural habitats, agriculture and the built environment to suffer more drought, erosion and clay shrinkage;
- ◆ Cause a northward shift in farming zones and wildlife (including pests and diseases), which could result in new species coming over from the continent as well as the loss of familiar landscapes; and
- ◆ Cause sea levels to rise, which will increase the risk of coastal flooding and erosion, with economic impacts on property in those areas and damage to natural habitats.

60. The implications of the UK failing to meet its Kyoto target are not yet known.

Discussions about compliance with the Kyoto Protocol are continuing internationally and the European Union is still discussing the implications of Member States failing to meet their respective share of the target sharing arrangement.(see paragraph 5). One of the Government's reasons for moving towards the UK's domestic goal is to allow some headroom to ensure that the Kyoto target is met.

61. The UK's greenhouse gas emissions are currently forecast to begin increasing again around 2010. As stated above, another of the Government's reasons for moving towards the domestic goal is to ensure that the UK is better placed in the longer term to meet future international targets. Taking a long-term perspective at this stage will ensure that change can be introduced gradually, thereby minimising the cost of transition.

Options

Identifying the Options

62. The evidence above clearly demonstrates that action is needed if the global community is to avoid the serious effects of climate change. The Government believes that taking no action is not an option and consequently in 1997 a review of the status and prospects of renewables was carried out. This included an examination of what would be necessary and practicable to achieve 10 per cent of UK electricity requirements from renewables by 2010 and what contribution renewables could make to reducing greenhouse gas emissions. In March 1999

the Government published a consultation paper¹⁵ reporting the outcome of the review and possible ways forward in implementing the Government's new drive for renewables.

63. Following the public consultation DTI published an analysis of the responses to the consultation paper¹⁶ in July 1999 and then in February 2000 a conclusions paper¹⁷. The Conclusions paper summarised the aims of Government Policy on renewables, these are:

- ◆ Assisting the UK to meet national and international targets for the reduction of emissions including greenhouse gases;
- ◆ Helping to provide secure, diverse, sustainable and competitive energy supplies;
- ◆ Stimulating the development of new technologies necessary to provide the basis for continuing growth of the contribution from renewables in the longer term;
- ◆ Assisting the UK renewables industry to become competitive in home and export markets and in doing so provide employment in a rapidly expanding sector;
- ◆ Contributing to rural development.

64. The Government proposed an initial 10-year strategy in collaboration with industry to meet its aims. The Government proposed to establish a sequence of targets in the electricity sector to act as a stimulus to industry and to provide milestones against which progress can be monitored.

65. The Government proposed that 5% of UK electricity requirements should be met from renewables by the end of 2003 and 10% by 2010, subject to the cost to the consumer being acceptable. A 10% target for renewables electricity would be

¹⁵ Department of Trade and Industry. (1999). *New and Renewable Energy – Prospects for the 21st Century*. London: DTI

¹⁶ Department of Trade and Industry. (1999) *New and Renewable Energy – Prospects for the 21st Century – Analysis of the Responses to the Consultation Paper*. London: DTI.

¹⁷ Department of Trade and Industry. (2000). *New & Renewable Energy: Prospects for the 21st Century: Conclusions in Response to the Public Consultation*. London: DTI.

equivalent to around an additional 2.5 million tonnes pa of carbon saving for the UK climate change commitments.

66. The key component in achieving these targets is the Renewables Obligation to provide a growing market in which the industry can invest with confidence.

Issues of Equity or Fairness

67. The Government believes that all sectors must play their part in contributing to improving energy efficiency and reducing emissions of greenhouse gases to contribute to meeting our climate change target. Accordingly, the UK Climate Change Programme sets out a package of policies and measures for all sectors in the economy.
68. The energy supply sector currently accounts for about 26% per cent of the UK's emissions of carbon dioxide¹⁸. The sector has a special role to play in helping to cut emissions from the business, domestic and public sectors.
69. The Renewables Obligation, along with a new target to double the capacity of combined heat and power by 2010, will be the main components of the UK Climate Change Programme specifically designed to assist the power sector in continuing to achieve greenhouse gas reductions.

Benefits

Identifying the Benefits

70. The UK Climate Change Programme will help ensure that the UK meets its legally binding Kyoto target to cut greenhouse gas emissions by 12.5% below 1990 levels by 2008-2012 and move towards the domestic goal of a cut in carbon dioxide by 20% below 1990 levels by 2010.
71. The Renewables Obligation will help to achieve these targets for greenhouse gas emissions reductions. The Obligation will form part of a package of measures

¹⁸ 'UK Energy in Brief', November 2000, pp27.

alongside other existing regulations, voluntary arrangements and incentives, as well as any future initiatives designed to achieve the reductions required.

72. As well as these environmental benefits the Government believes that the Renewables Obligation will stimulate investment in renewable technologies and assist these industries to compete on the world stage in what will become a significant global industry. For example, estimates based on World Energy Council projections¹⁹ indicate that cumulative investment in renewables could range from £150 billion to £400 billion between 2000 and 2010. Similarly, Shell suggests that renewables will meet 40% of world energy needs by the middle of the century.

[add something about contribution to competitiveness through exemption from climate change levy?]

Quantifying and valuing the benefits

Overall Cost to Consumers:

73. Estimates of the overall cost to consumers are shown in the following table, both in absolute terms and as a percentage of average electricity prices compared to actual 1999 levels in real terms. . The table assumes that the 10% target is equivalent to a supply of 38.8 TWh of renewables in 2010/11 (Based on an estimate of total electricity consumption plus losses of 387.9 TWh in Great Britain).

74. The table also assumes that receipts from suppliers are recycled in relation to the amount of compliance with the Obligation and that this does not increase the maximum potential cost to the consumer. Let us assume that the Obligation is set at 33.6 TWh, that the total renewable generation is 30 TWh and that all Renewable Obligation Certificates are traded ex-post. Buy-out payments then total £108 million (3.6 TWh multiplied by 3p/kWh) and the share of buy-out payments is therefore 0.36 p/kWh (£108 million divided by 30 TWh). Renewable Obligation Certificate prices would therefore settle at 3.36p/kWh - the price of the

avoided buy-out plus the share of total buy-out payments. In aggregate, suppliers would pay generators £1008 million for the Renewable Obligation Certificates and would have no net position on buy-out. The costs to consumers would therefore be in line with the theoretical maximum of £1008 million (33.6 TWh multiplied by 3 p/kWh).

Table D: Cost of Renewables Obligation to Consumers in 2010/11

Renewables Target	38.8TWh
Contribution from non-eligible renewables:	5.2TWh
<i>Existing Hydro exceeding 20 0MW installed capacity</i>	<i>3.5 TWh</i>
<i>Ineligible new and existing Energy from Waste</i>	<i>1.7 TWh</i>
Contribution required from eligible renewables	33.6 TWh
Maximum cost for buy-outs (38.8TWh x 3p/kWh)	£1,008 million
Reduction in the cost of the Fossil Fuel Levies * compared to costs without the Obligation	-£229 million
Total extra support for Renewables	£779 million
Percentage impact on average electricity prices compared to 1999 actual levels	4.4% %

* In England and Wales and in Scotland

75. It is anticipated that licensed electricity suppliers will increase their prices in order to meet the additional costs of complying with the Obligation. If unlicensed suppliers also increase their prices to match those of the licensed suppliers, an

¹⁹ Department of Trade and Industry. (1999). *New & Renewable Energy Prospects for the*

additional indirect cost of £93 million would be incurred. This would bring the overall cost of the Obligation for both direct and indirect costs to £872 million, which represents an increase of 4.4% in real terms over actual 1999 prices. This estimate takes account of the increase in electricity sales between 1999 and 2010/11 which will enable the costs of the Obligation, as estimated above in terms of £ million, to be spread over a greater volume of total electricity sales than in 1999.

Compliance Costs for Business

Business Sectors Affected

76. The following types of firms will be affected:

- ◆ Licensed electricity supply companies;
- ◆ Generators of renewable energy
- ◆ Potential traders in Renewable Obligation Certificates

30. The Government estimates that there will be fewer than 100 businesses that will be required to comply with the Renewables Obligation. Many of these businesses are large companies.

Compliance Costs for a "Typical" Electricity Supply Business

31. The compliance costs of the Renewables Obligation fall into two categories:

- ◆ Initial start-up costs;
- ◆ Recurrent costs of complying with the obligation.

Initial start-up costs for businesses are likely to include:

- ◆ Time spent in planning and preparing for the new Renewables Obligation;
- ◆ Changes to existing administrative and computer accounting systems;
- ◆ Training of staff;
- ◆ Legal costs in drawing up generator-supplier contracts;
- ◆ Any consequential printing and stationery costs.

32. Recurrent costs would include:

- ◆ Providing the evidence as required by Ofgem
- ◆ Maintaining records and accounting systems to enable the RO to be complied with
- ◆ Purchasing Renewable Obligation Certificates (ROCs) and providing these to Ofgem

Consultation with Small Business: "The Litmus Test"

33. The preliminary consultation on the Renewables Obligation was conducted in the autumn of 2000. No specific concerns were expressed by small businesses but it is believed that the Obligation may affect small businesses in two ways:

- *Where small businesses are large consumers of electricity.* Since the cost of the Obligation is based on p/kWh, it is likely that the increased costs to suppliers in meeting the Obligation will be passed on to consumers on a similar basis. Since large consumers currently enjoy lower average electricity unit prices than other consumers, the impact of the Obligation as a percentage of electricity prices will be greater for large consumers than others. Some small businesses may be very energy-intensive, such as certain manufacturing firms, but the higher increase in costs because of the Obligation is not believed to affect many small businesses.
- *Where small businesses are involved in the design, development and deployment of renewable generation.* Many of the firms involved in the renewable

energy sector are small businesses. It is believed that the Obligation will significantly increase the size and security of the renewables generation market, and support the development of the industries that supply it.

Other Costs

Distributional Effects; Number and Type of Losers; Average Loss; Gainers

34. It is not possible to define the exact net effect of the introduction of the Renewables Obligation will be on individual industries or sectors. The net effect depends on:

- ◆ The future energy consumption of firms in the sector;
- ◆ The way in which licensed suppliers choose to pass on the cost of complying with the Renewables Obligation

Gender Impact

35. None envisaged.

Environmental Impact

36. The Renewables Obligation is expected to save around 2.5 million tonnes of carbon equivalent (MtC) a year by 2010. These savings will make an important contribution towards meeting the UK's climate change targets. Given the overall annual cost of the Obligation of up to £779 million in 2010/11, this represents a cost of £312 /tC saved.

Effect on Work Incentives

37. It is expected that the Renewables Obligation, by stimulating investment in new environmentally beneficial technologies, will have a favourable impact on employment. As stated in paragraph 24, the worldwide market for renewables has the potential to grow significantly. Previous estimates²⁰ have suggested that working towards the 10% target, combined with efforts to improve export capability, could result in an additional 10,000 – 45,000 jobs in the UK renewables sector. These figures must be treated with caution, however, given the dearth of rigorous research in this area.

Impact on Retail Price Index (RPI)

38. The Obligation is expected to increase electricity prices by around 4.4 % in 2010, with the impact on the RPI expected to be less than 0.1%.

Results of Consultations

39. A preliminary consultation on the Renewables Obligation was held in the autumn of 2000, with over 200 responses being received from a wide cross-section of parties including electricity suppliers, renewable electricity generators and non-governmental organisations. The Government's response to the comments received is contained in the statutory consultation of which this assessment is an annex. The main issues raised in the Preliminary Consultation responses were:

- The Obligation should apply to all licensed electricity suppliers;
- Large-scale hydro should be excluded from the Obligation, as proposed;
- Energy-from-waste should be included in the Obligation;
- The profile of the Obligation should extend beyond 2010;
- The level of banking should be reduced and opinion on borrowing was divided;

²⁰ Department of Trade and Industry. (1999). *New & Renewable Energy: Prospects for the 21st Century*. London: DTI.

- ROCs should be used as a means of demonstrating compliance;
- Buyout payments should be returned to suppliers but there were concerns over the mechanism;
- The costs were overall acceptable and expected to be less than suggested;
- There was no clear consensus on banding of the Obligation.

Summary and Recommendations

40. Although additional costs are likely to be incurred by the power sector, business and the public as a result of the introduction of the Renewables Obligation, the Government believes that the economic, environmental, social and health benefits to be gained significantly outweigh these costs.

Enforcement, Sanctions, Monitoring and Review

41. The Renewables Obligation will be administered by Ofgem. Administration and enforcement will also be undertaken by Ofgem. The level of the buyout price, which will operate as an alternative to compliance, is subject to a further statutory consultation, the results of which will be incorporated in this document when available. Post Implementation Review (PIR) is subject to ministerial decision.

Signed Declaration

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.

Signed:

Minister for Energy and Competitiveness in Europe

Date:

1 Victoria Street, London, SW1H 0ET

ro.consultation@dti.gsi.gov.uk

Tel: 020 7215 2653 Fax 020 7215 2674

Annex C: Other Policy Instruments

Capital Grants

77. The Government's 10% target for electricity from renewables is expected to require a significant increase in the power generated from offshore wind and energy crops. In order to bring forward this increase Government has announced that capital grants totalling £89 million will be made available from the Department of Trade and Industry and the New Opportunities Fund. This support will offset a proportion of the investment costs of an early tranche of projects and will provide experience of commercial deployment and operation. The capital grants are also expected to underpin the development of the industry and supply chains. *Further funding towards offshore wind and biomass projects may also be available following the Performance and Innovation Unit's Report, which will allocate the further funding announced in March 2001 by the Prime Minister of £100 million. (Section x.x)]*
78. There will be separate capital grants schemes for offshore wind and energy crops. This is to recognise the different nature of projects that will come forward from these two resources e.g. projects generating electricity from energy crops will require inputs from differing fuels sources over time.
79. The £89 million funding also includes £3 million to be allocated by the New Opportunities Fund for small-scale biomass heat, and combined heat and power (CHP), projects. This funding is expected to significantly increase the penetration of the non-domestic heat market by biomass.

Offshore Wind

80. DTI are expecting to formally launch the £39 million capital grants scheme for offshore wind in July. State Aid clearance is currently being sought for the scheme. The Department has consulted extensively with the offshore wind industry on the design of the scheme, of which the key objective is to stimulate the early deployment of offshore wind farms in UK waters.
81. Sites should be sited within UK territorial waters and developer will also need to have secured all necessary consents for the proposed site before submitting a grant proposal.

82. The maximum grant available for each wind project is expected to be a maximum of 40% of eligible project costs. The total grant should also not exceed £10 million.

The New Opportunities Fund

83. In April 2001, the Fund received policy directions from Government to deliver a number of major new grant programmes, including further funding for the environment. A strand of the new 'Transforming Communities' environment programme represents investment of £50 million for renewable energy. Of the funding available, at least £33 million should be committed to developing renewable electricity generation by building generating capacity for electricity from energy crops, at least £10 million should be committed to building offshore wind electricity generation projects and at least £3 million to small-scale biomass heat, and combined heat and power, projects.

84. Policy directions require that the Fund commit funding by 2005. The Fund plans to consult with key stakeholders during the summer to develop UK-wide schemes intending where possible to complement existing activities and strategies to ensure that funding makes an early contribution towards UK targets for renewable energy.

Renewables Fund/PIU study

85. On 6th March 2001, the Prime Minister announced an additional £100 million to support the development of renewables. He said:

"Last year I asked the Performance and Innovation Unit to undertake a major study into the future of UK renewable energy. Today I can announce a further £100 million to support those technologies identified by the report. I know that a number of green groups have been campaigning for a target of 100,000 solar PV installations. This new money will help us to promote solar PV, give a boost to offshore wind, kick start energy crops, and bring on stream other new generation technologies. This investment in renewable technology is a major down-payment in our future, and will help open up huge commercial opportunities for Britain."

86. The allocation of the Renewables Fund will be informed by the Performance and Innovation Unit's report into renewable energy, which is focusing on the long-term

prospects of renewable energy in the period leading up to 2050. In deciding the allocation of the Fund, the objective is to provide renewable generation at least-cost in the long term. The potential benefit to consumers from renewables support in this way is primarily from the reduction in the future cost of achieving climate change targets. It is expected that cost reductions would be derived from the process of learning-by-doing. The PIU report will be published later this year, and will consider both the likely contribution from different renewable energy technologies and the potential for cost-reductions through learning-by-doing.

Climate Change Levy exemptions

87. The Climate Change Levy introduced by the Government under the provisions of the Finance Act 2000 commenced on 1 April 2001. The Levy is charged at the rate of 0.43p/kWh on electricity supplied to non-domestic customers in the United Kingdom. Electricity from qualifying renewable sources is exempt from the Levy. Ofgem is responsible for monitoring the exemption claimed in Great Britain; Ofgem has a similar role in respect of electricity supplied in Northern Ireland.

88. Monitoring the exemption involves:

- accrediting generators;
- issuing Levy Exemption Certificates (LECs) in respect of output from accredited generators;
- reporting to Her Majesty's Customs & Excise on the LECs confirmed to suppliers.

89. In January 2001 Ofgem issued an accreditation pack for generators who wished to apply for the output from their stations to qualify for the exemption. The information provided by the applicants enabled Ofgem to establish whether the station met the definition of a qualifying renewable source. The qualifying definition is set out in the Climate Change Levy (General) Regulations 2001 (S.I. 2001 No. 838). 408 generators in Great Britain have been accredited up to 10th May 2001 with a total installed capacity of over 1262 MW (not all the installed capacity is qualifying output).

Accredited stations

Technology	Number of stations	Installed Capacity
------------	--------------------	--------------------

	accredited	MW
Agricultural waste / energy crops	6	123.5
Energy from waste (incineration)	12	222.3
Hydro	126	158.1
Landfill gas	171	389.1
Off-shore wind	2	3.8
On-shore wind	56	320.6
Sewage gas	35	44.8
Total	408	1262.2

90. Once accredited a generator is issued with a unique accreditation number, which identifies the technology type / fuel source and the location of the generator e.g. England, Scotland etc.

91. On receipt of the monthly output information, Ofgem issues the LECs to the generator (in the case of non-NFFO generators) or the supplier (in the case of NFFO generators). One LEC is issued for each qualifying MWh produced. Each LEC has a unique serial number which indicates the generator's accreditation number and the month and year in which the output was generated. The LECs have to be traded with the electricity and cannot be sold separately. Following the issue of the LECs, suppliers are required to notify Ofgem of the quantity and serial numbers of the certificates purchased from generators. Ofgem then validates this information using the details it holds of the LECs issued and provides confirmation to the suppliers.

Research & Development

92. The Renewables & Sustainable Energy research & development programme is one element of the Government's policy of stimulating the development of renewable energy so that it can provide a continuously growing contribution in the competitive energy market. The Government has recently increased the budget for its expenditure on the research & development programme, as shown:

Year	Budget (£ million)
2000/2001	14.0

2001/2002	18.0
2002/2003	18.0

93. The Renewables & Sustainable Energy R&D Programme currently supports research & development projects in the following areas:

- Biofuels
- Fuel cells
- Solar energy
- Wind energy
- Water (small-scale hydro & wave energy)
- Tidal stream
- Embedded generation.

94. The priorities for projects have been developed from the draft long term strategies (Technology Route Maps) that are presently being developed by the DTI in consultation with industry, academia and other key stakeholders. Proposals for research & development outside the scope will still be considered, but priority will be given to proposals that are within the scope and hence are expected to make a significant contribution to the key technology targets that are emerging from the Technology Route Mapping exercise.

95. Projects can include industrial research or pre-competitive development activity, which can include initial demonstration projects or pilot plants. The programme does not support the cost of commercial projects, nor of design/feasibility studies for commercial projects. The principal requirement for all proposals is that they should include innovation that offers the prospect for reduced cost and/or improved performance of new and renewable energy, with the goal of improving its competitiveness, and the competitiveness of UK industry. We expect proposals to clearly make the case that the innovation is worth pursuing and that the particular project is the logical next step in the development.

96. Further details on the Technology Route Maps can be found on the DTI website at www.dti.gsi.gov.uk/renewable/renew.htm and details on R&D grants at www2.dti.gsi.gov.uk/renewable/call.htm.

Annex D: Other issues raised in responses to the Preliminary Consultation

Green tariffs

97. Green tariffs, where supply companies match subscribers' energy use with electricity generated from renewable sources, have had modest success, with over 20,000 consumers signing up. Green tariffs should not be used to meet a supplier's costs in fulfilling their Obligation. The intention is that any green tariff should lead to additional generation, over and above a supplier's Obligation. We believe that green tariffs have an important role in promoting and raising awareness of renewables but it is unclear whether green tariffs will continue after the introduction of the Obligation. We will be discussing the future for such voluntary support for renewables with the industry.

Embedded generation

98. The responses to the preliminary consultation expressed concern that there is little encouragement for embedded generation. An embedded generation working group was established to investigate how embedded generation could be supported and a further group is being established to monitor implementation of its recommendations.

NETA

99. Considerable concern has been expressed over the impact of the New Electricity Trading Arrangements (NETA) on small generators, particularly intermittent forms of generation such as wind farms. A review of NETA and the impact on such generators is currently being conducted by Ofgem and any further measures will depend on the outcome of that review.

Planning

100. The Government recognises that the planning system has an important role to play if renewable energy targets are to be met. The Government wants to promote a positive and strategic approach to planning, and to create an

atmosphere conducive to open and constructive dialogue among operators, the planning authorities and local people so that suitable sites can be identified with sensitivity and care.

101. In order to promote this strategic approach from the regional level downwards, the Government in February 2000 initiated work to prepare regional assessments and targets for renewable energy provision based upon - and, where necessary, updating - existing resource studies.
102. The majority of these regional assessments are now complete, with the remainder expected to be complete by September of this year. The Department is looking to carry out a review of the completed regional assessment in terms of the consistency of approach, including assumptions made in development of regional targets, and to gauge how the total proposed regional contributions match up to the 2010 UK target.
103. The results of these assessments should be incorporated following consultation with interested stakeholders into Regional Sustainable Development Frameworks, which will elaborate a regional approach to renewable energy, including regional targets which flow from the assessments of each region's capacity to generate electricity from a range of different sources.
104. The frameworks will work alongside Regional Planning Guidance (RPG) and Regional Development Agencies' Economic Strategies in promoting sustainable development. Thus we envisage RPG taking forward in land-use terms a region's strategy for delivering renewable energy targets by defining broad locations for renewable energy development and setting criteria to help local authorities select suitable sites in their plans. We would encourage regional planning bodies to set targets in RPG, where sensible to do so, for the structure plan and unitary development plan areas within the region consistent with the regional targets provided by the regional sustainable development frameworks.
105. Together with the national planning policy guidance in PPG 22: Renewable Energy, RPG - as taken forward through structure plans and Part I unitary development plans - will provide a strategic framework for policies and proposals for renewable energy development in local plans, including the identification in those plans of suitable sites. This, in turn, will feed through to decisions on individual planning applications.

106. More positive planning at regional and local levels will contribute to greater public familiarity with, and acceptance of, prospective renewable energy developments. It remains important, however, for operators to prepare the ground with local authorities, environmental organisations and local people before formal planning applications are submitted and to develop proposals in consultation with them

Offshore Wind

107. The Department has recently held a consultation exercise on the consents process for offshore windfarms. This proposes that instead of the current fragmented situation the DTI act as a "one stop shop", receiving and co-ordinating the administration of proposals for offshore windfarms in England and Wales. It also proposes that DTI become, in effect, the planning authority for the smaller offshore windfarms i.e. those at or below 50 MW since the local planning regime does not extend offshore. Responses were sought by the DTI by 23 April and the Department will be looking to announce the outcome of the consultation exercise shortly.

RESTRICTED

file



10 DOWNING STREET
LONDON SW1A 2AA

From the Policy Advisor

9 July 2001

Dear Munaf,

MINERS' COMPENSATION

The Prime Minister was grateful for the report provided by your office concerning the payment of miners' compensation claims.

The Prime Minister was pleased to see that progress has been made in dealing with the claims, and that agreement had been reached on a number of urgent issues. However, he was concerned that there are still a large number of claimants who have not received final or interim payments. He would like to know if faster inroads could be made into this backlog.

I would therefore be grateful if you could report back on speeding up the process for dealing with claims. In addition the Prime Minister has asked to be kept up to date with this issue and so I would also be grateful if you could arrange for this office to receive monthly progress reports.

I am copying this to Bernadette Kelly and Neil Couling (DWP).

Your sincerely,

Oly Jones

OLY JONES

Munaf Musa
Assistant Private Secretary to Brian Wilson

J

RESTRICTED

RESTRICTED

1. JV
2. OJ

From: Oly Jones
Date: 6 July 2001

PRIME MINISTER

cc: Geoffrey Norris
Simon Virley
Brian Hackland
David North
Jeremy Heywood

*We must
get the pump
prices up
in order*

FUEL PRICE UPDATE

Latest DTI figures are attached, for information.

Crude has fallen from \$28 to around \$26/barrel since mid-June. At 78.3p/l, unleaded pump prices have not come down as far, as retailers are restoring normal profit margins. But pressure for further price rises has now eased.

International oil markets

Oil prices have fallen in recent weeks. Crude traded today at around \$26/bl, down from \$28 in mid-June and well below \$34, last year's high. \$26 is in the middle of the OPEC target range. OPEC met on Wednesday and agreed to leave production levels unchanged. There was little effect on the market, which suggests that the market is balanced.

Wholesale and pump prices

The fall in the price of crude has fed through to wholesale prices, which are down 3p/litre since mid-June. But pump prices have not matched this fall, since retailers have taken the opportunity to restore their profit margins to normal levels, (which is understandable after a long period of very tight margins due to intense public pressure). Pump prices have fallen slightly, to 78.3p/l for unleaded and 78.1p/l for diesel. The restoration of normal profit margins means that there is now no pressure in the system for price rises – although if crude or wholesale prices go up again this pressure will return.

Oly Jones

OLY JONES

RESTRICTED

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 6 JULY 2001

SUMMARY

- Average petrol prices fell for the third successive week and are now 0.7 pence/litre below their recent peak
- Average diesel prices fell slightly, by 0.2p/l this week

Retail Petrol and Diesel Price Changes

On 2 July, the average retail price of **unleaded petrol** was 78.3 pence per litre (p/l), a fall of 0.3 p/l compared to 25 June.¹

On 2 July, average retail **diesel prices** were 78.1 p/l, a 0.2p/l reduction compared to 25 June.

Factors Affecting Petrol Prices

(i) *Crude Oil Market*

Although crude oil stocks in the US fell by around 4mb during the past week, they are still at reasonably comfortable levels. Traders appear relaxed about both gasoline supplies in North America and the Iraqi suspension of oil exports. As a consequence, oil prices continued to trend downwards over the past week. At a meeting in Vienna on 3 July, OPEC delegates decided to leave quotas unchanged, principally because approval by the UN Security Council of a 150 day rollover of the Iraqi food for oil programme is likely to result in a resumption of Iraqi oil exports within a week. OPEC's next meeting is scheduled for late September.

(ii) *Wholesale Market*

Wholesale unleaded petrol prices fell 0.4 p/l during the week as market concerns about gasoline supply in the US have eased.

(iii) *US Gasoline Stock Levels*

API data released on 3 July showed a fall in US gasoline stocks of 2.5mb, the first decline in six weeks. However, gasoline stocks remain near their highest level since June 1998, and are a significant contributor to lower crude and product prices.

(iv) *Refinery Capacity*

The UK supply situation is normal.

1. Since 1 April 2001, average unleaded petrol prices collected by the DTI have related entirely to ULSP (ultra-low sulphur petrol).

Factors Affecting Diesel Prices

International wholesale prices decreased by 0.6 p/l following last week's increase, as the market continued to follow the downward movement in crude oil prices.

UK Competition

Petrol retailers' margins crept up slightly by 0.1 p/l over the past week, as wholesale price reductions outstripped the fall in retail prices. In the press reports of BP's retail margins which followed its trading statement on 1 July, there appears to have been some confusion between gross retail margins and profit. BP, and other oil majors, typically need to make a gross retail margin of around 5 to 6 p/l to cover their variable and fixed operating costs. Most of the press have reported BP as having made 5 p/l profit on its retail petrol sales, but this is not supported by the facts. With gross margins currently around 8 p/l, oil companies are making profits of 2 - 3 p/l, significantly less than reported in the press.

Market Sentiment

The market is more stable as international gasoline wholesale prices fall and petrol retail margins recover.

Future Market Outlook

The UK petrol retail market is currently healthy, with retail margins having doubled since the end of May. With current gross retail margins of around 8 p/l, the market has considerable headroom for further retail price reductions.

Recent Trends in Petrol and Diesel Market Prices

To set the context of prices, crude, wholesale product and margins data are charted and discussed below. There are two versions of each chart, one putting recent experience into perspective, by showing data from the start of 2000, the other giving data from around the start of February this year. In each case, a note indicates whether the textual commentary has been updated since last week's brief. Changed or new text (under Charts 1, 3, 4, 5 and 6) is italicised.

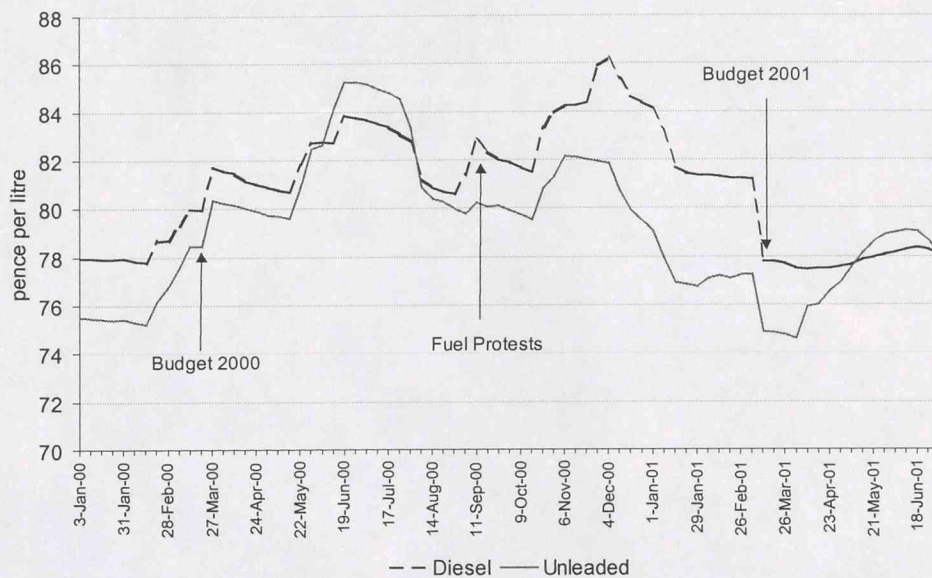
Contacts for more information

Mike Earp (020 7215 5271; Mike.Earp@dti.gsi.gov.uk)

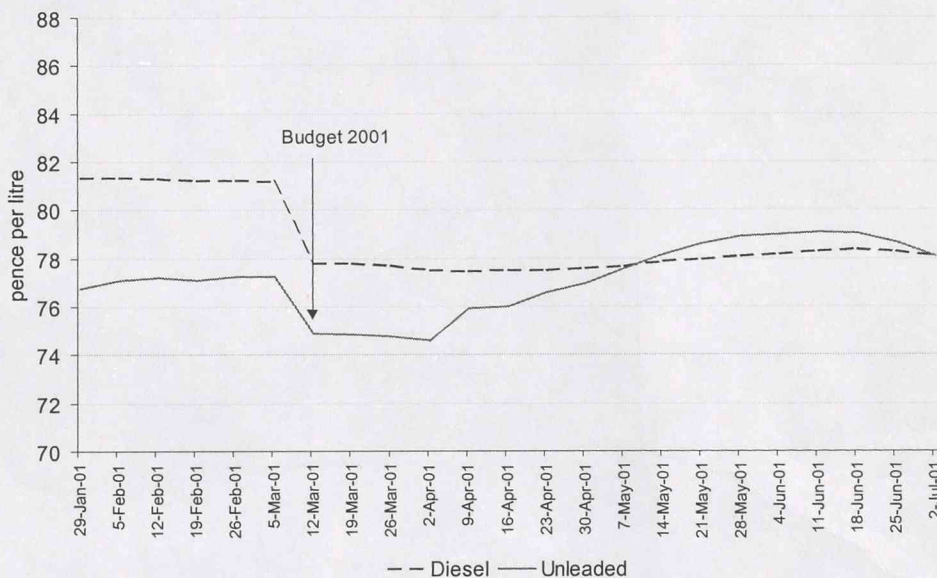
Neil Semple (020 7215 5114; Neil.Semple@dti.gsi.gov.uk)

Oil and Gas Directorate, DTI, 04 July 2001

Chart 1: UK Retail Prices - from January 2000 to now:



From February 2001 to now:



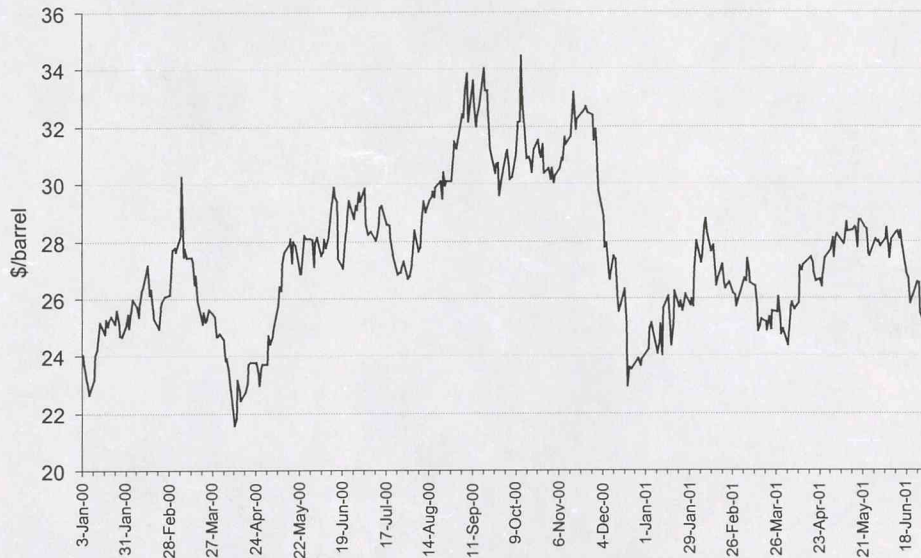
There was a petrol price spike in the early summer of 2000. At the end of June a combination of increased US gasoline demand, new US and European fuel specifications and low stocks led to price rises. Prices increased again in late October/early November 2000 mainly because of higher crude oil prices and petrol retailers attempting to recover from low margins following the fuel crisis. From the second week in April, retail petrol prices increased mainly as a result of higher international wholesale petrol prices. *They have now fallen for three weeks in a row, following sustained falls in wholesale prices.*

Retail diesel prices peaked in December with the onset of peak winter demand for heating oil leading to tighter global supplies of diesel. Retail price pressure has eased now that we have moved out of winter in the northern hemisphere.

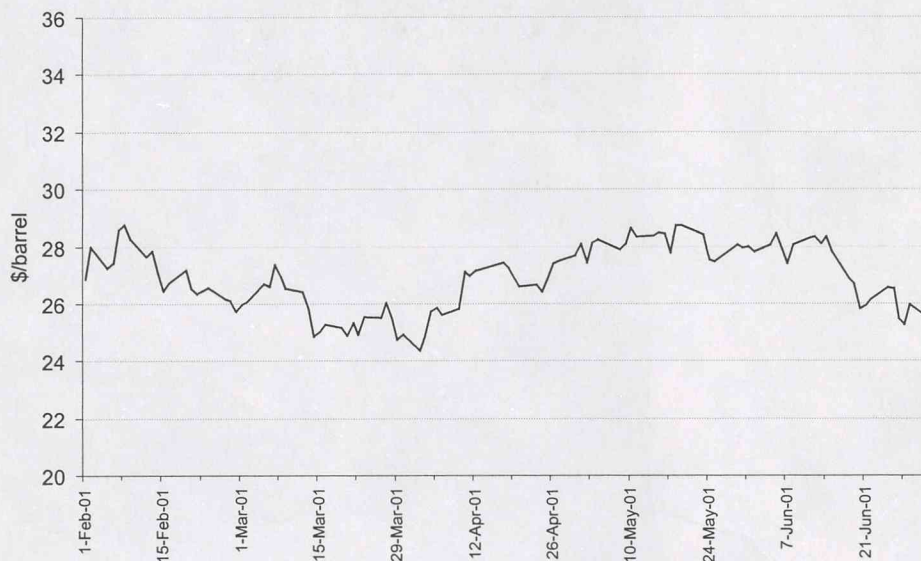
Source of data for Chart 1: company data collected by ENP Directorate, DTI

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 6 JULY 2001

Chart 2: Two Month Brent crude oil futures - from January 2000 to now:



From February 2001 to now:

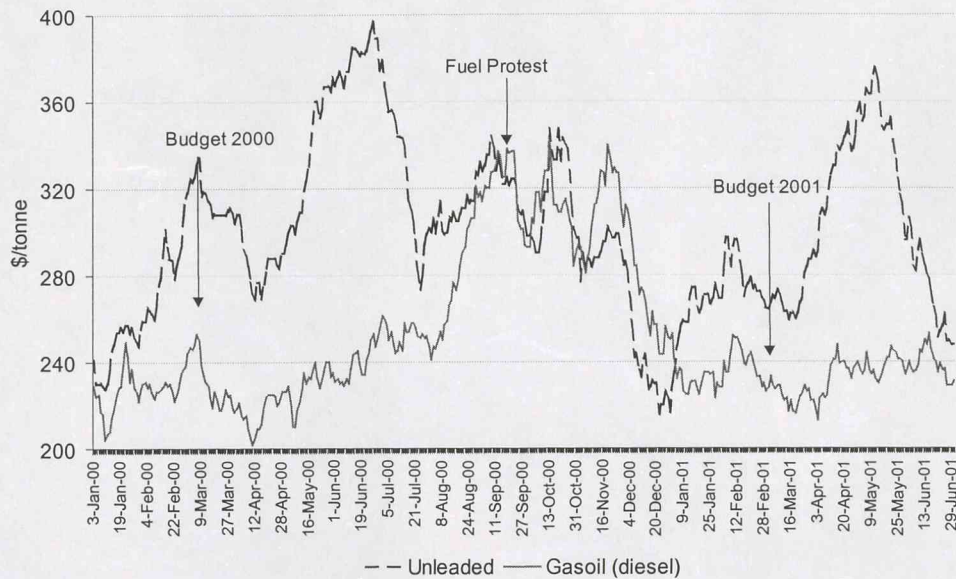


[Text below unchanged this week.]

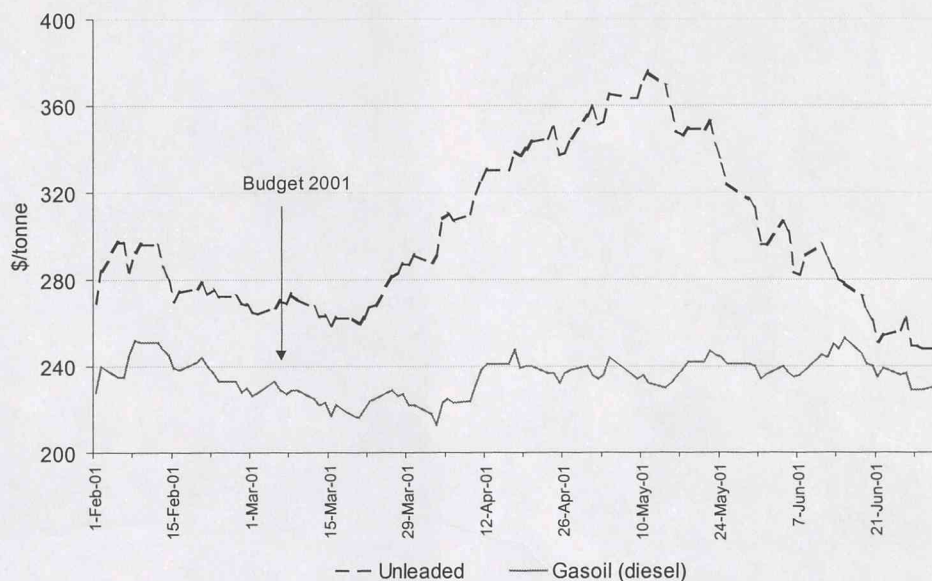
Crude prices rose throughout 2000 driven initially by concerns over low stocks; crude oil prices were then dragged up by the product markets. As supply improved following OPEC production increases, the price fell back and is now trading in the range \$25–30/barrel. The OPEC crude basket is typically \$1.5/barrel below Brent.

Source of data for Chart 2: International Petroleum Exchange

Chart 3: North West Europe wholesale product prices - from January 2000 to now:



From February 2001 to now:



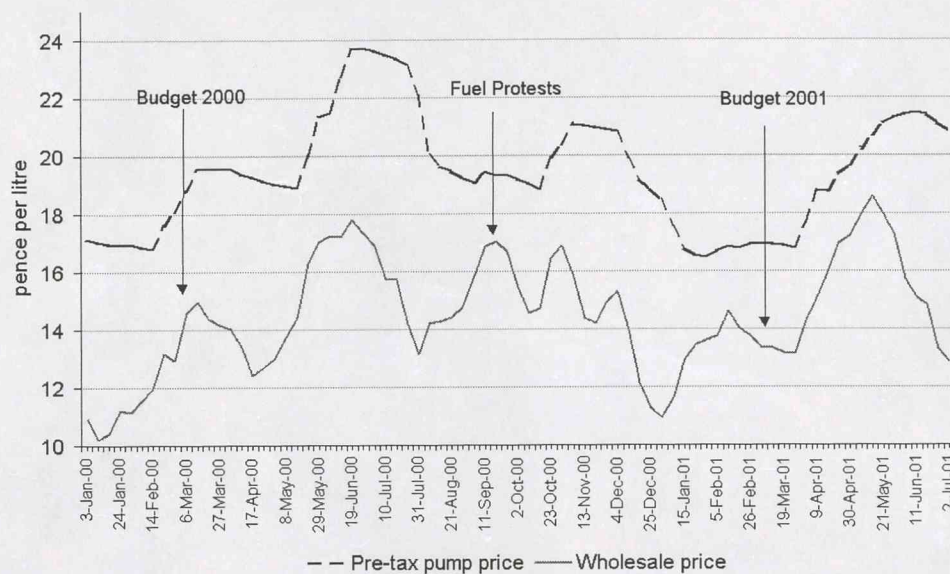
Wholesale gasoline prices rose sharply in the spring and early summer of 2000, due to low stocks in the US and difficulty in implementing the new environmental fuel specifications. UK production problems at Grangemouth also reduced supply. As the US driving season ended, and production improved, gasoline prices fell sharply and then started to track movements in crude. Prices rose again in April as US stocking concerns returned. However, from the middle of May wholesale prices fell as market concerns over US gasoline supply eased. *Wholesale prices have now fallen by around 5.7 p/l since their peak in mid May.*

For diesel, the price rise in the late summer and autumn of 2000 was caused by the increase in seasonal demand and the rise in crude prices. Prices in the period January to June 2000 were relatively stable and that pattern appears to be repeating itself this year.

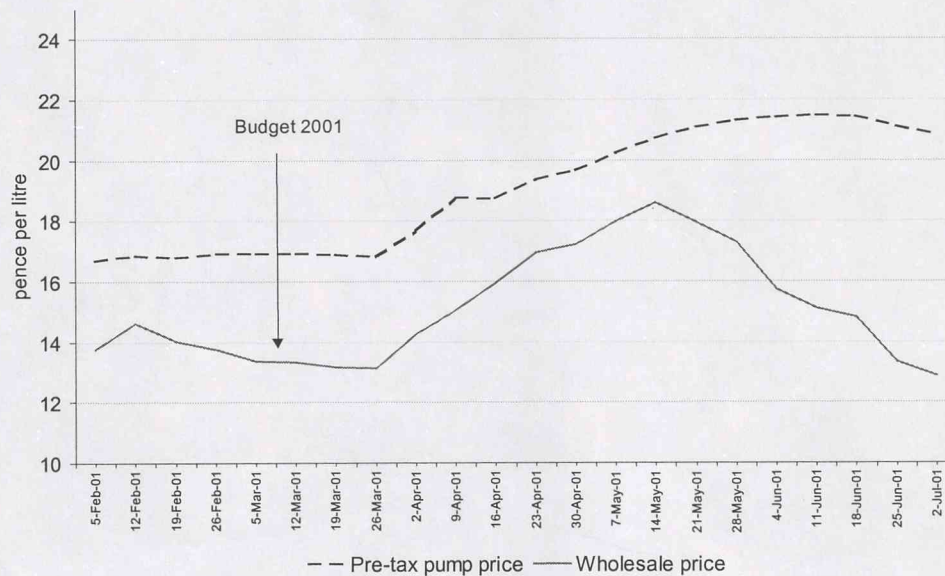
Source of data for Chart 3: Platts

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 6 JULY 2001

Chart 4: UK pre-tax unleaded petrol prices - from January 2000 to now:



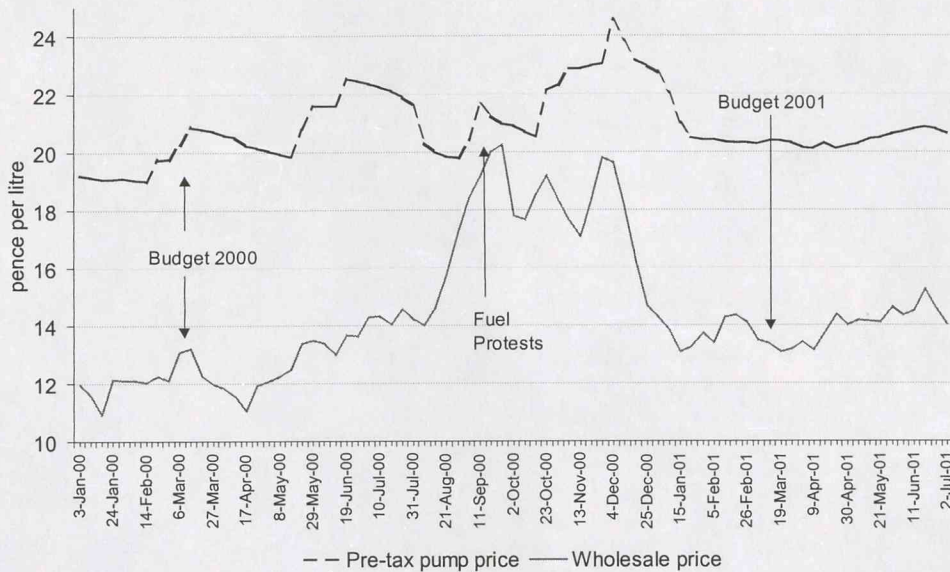
From February 2001 to now:



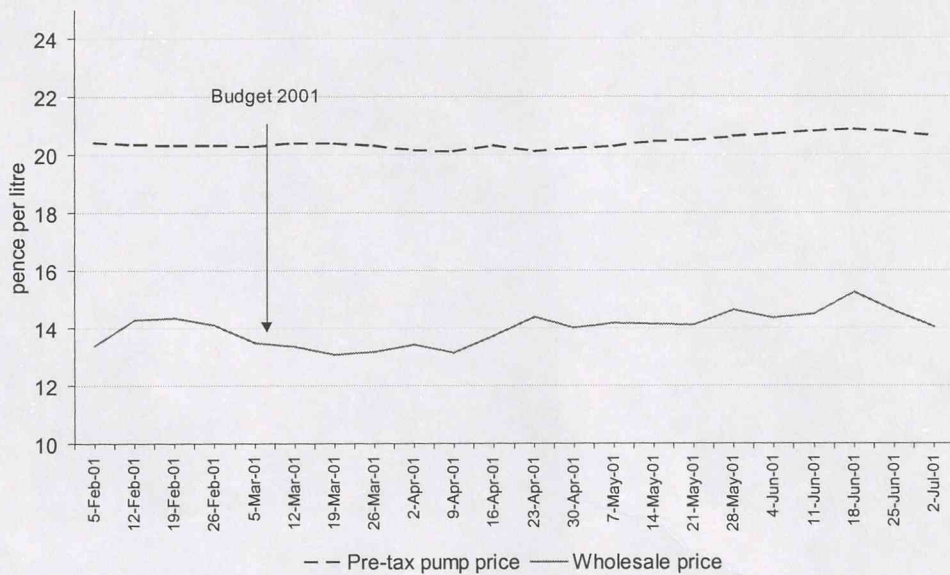
UK pre-tax retail pump prices have generally tracked Rotterdam wholesale spot prices. The gap in the two prices was at its narrowest at the time of the fuel crisis, when UK retail margins reached unsustainable levels. *Pre-tax pump prices are now falling, as wholesale prices decrease further.*

Source of data for Chart 4: Platts and company data collected by ENP Directorate, DTI

Chart 5: UK pre-tax diesel prices - from January 2000 to now:



From February 2001 to now:

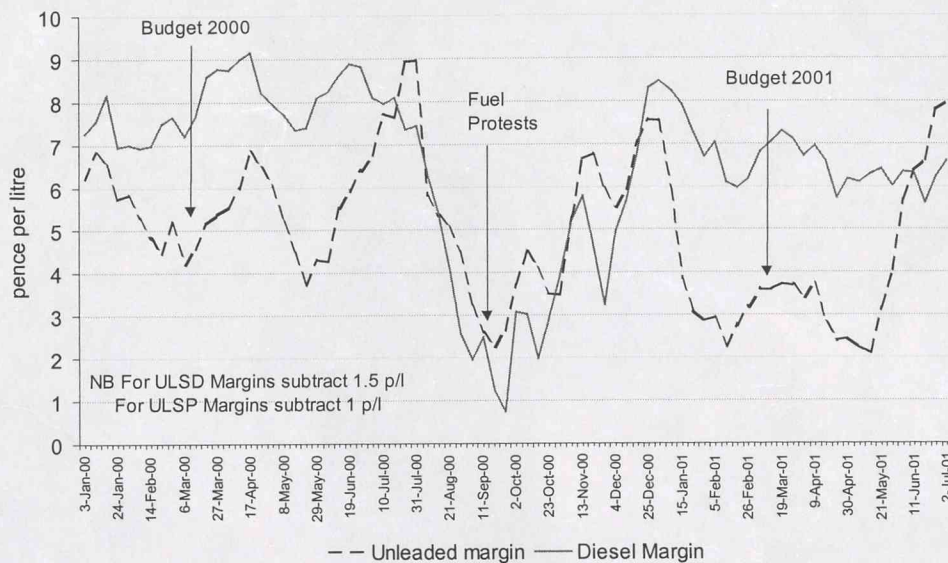


The UK pre-tax retail diesel pump price spiked in early December 2000 as a result of high crude prices and increased demand in the northern hemisphere for domestic heating oil which led to tighter diesel supplies. *The price fell slightly by 0.2p/l this week, reflecting the decrease in wholesale prices.*

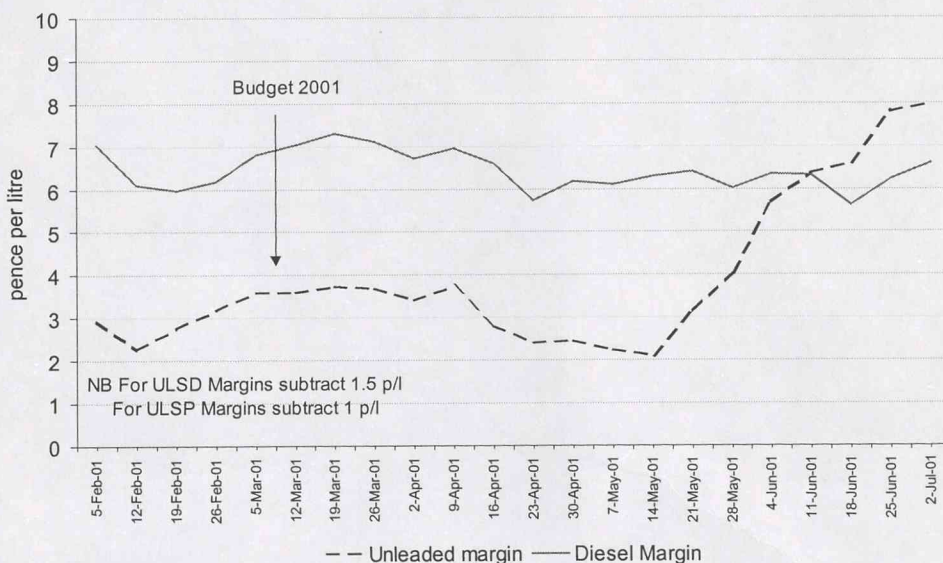
Source of data for Chart 5: Platts and company data collected by ENP Directorate, DTI

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 6 JULY 2001

Chart 6: UK Retail Margins - from January 2000 to now:



From February 2001 to now:



UK petrol retail margins were subject to substantial gyrations during 2000, with margins normally rising at times of price increase in the market such as the post-Budget period, the early summer and late October/early November. *Current margins of 8.0 p/l are now very healthy and are at their highest level since the beginning of the year.* Retailers, depending on their site portfolio, have until recently achieved a margin of about 5–6 p/l to cover both variable and fixed costs.

Diesel margins were respectable in the first half of 2000 and then plummeted to reach a low during the fuel crisis. They then recovered as retailers tried to recover their margins and, with the onset of increased winter demand, that led to higher retail prices. *UK retail diesel margins increased by 0.4 p/l this week and have gone up by 1p/l over the past two weeks, as retail prices remain relatively firm despite falling wholesale prices.*

Source of data for Chart 6: Platts and company data collected by ENP Directorate, DTI

Re 7/7

Makix



DN kle

BG Group

100 Thames Valley Park Drive
Reading
Berkshire RG6 1PT

Telephone 0118 929 2830
Fax 0118 929 3278
mobile 07909 997431
will.davies@bg-group.com

Oliver Jones *WJ*
Prime Minister's Policy Unit
10 Downing Street
London
SW1A 2AA

6th July 2001

Dear Oliver

Further to Wednesday's meeting may I thank you and your colleagues for your time. I hope we were able to provide you with the information you required.

I'd like briefly to reinforce the key messages on Domestic Combined Heat & Power (DCHP) and Natural Gas Vehicles (NGVs). In both cases, BG Group is wholly committed to commercial development of these energy efficiency technologies, in the case of NGV's – building and expanding the market, and in the case of DCHP – launching a consumer product for the mass market in 2003.

We are successfully managing the technical and commercial elements of DCHP, and we are actively engaged in discussions with all key stakeholders to overcome existing barriers to market. Some issues are yet to be resolved, and Government support for changes to the regulatory framework that would incentivise the connection of DCHP would be welcome.

However, to ensure the successful growth of DCHP and the very substantial energy and CO₂ savings it can deliver in the domestic sector, it should be included in the existing government support programmes in the energy efficient technology field, including access to the £100m fund announced by the Prime Minister. It should also be applied widely across statutory energy efficiency programmes.

For NGVs we continue to invest in developing the business in the belief that natural gas is a natural fuel choice for a number of vehicle sectors as it satisfies both economic and environmental criteria. The environmental case for natural gas is a strong one both for global warming (our research shows that this is also for converted petrol vehicles) and local air quality (e.g. trucks that can satisfy Euro 5 emissions criteria today).

Despite considerable growth around the world, NGVs have been slow to pick up in the UK. The barrier of high infrastructure capital costs is currently difficult to overcome with fiscal policy incentives alone. Both consumers and manufacturers require a stronger indication that natural gas is seen as a fuel for the future on which they can base strategic investment decisions.

Thank you for your time, and please do not hesitate to contact me in the event you would like any further information or clarification.

Yours sincerely

pp. Ulrich Tullar

Will Davies
General Manager BG Group DCHP

cc. Brian Hackland, Transport
Philip Andrews, Environment
David North, Environment
Geoffrey Norris, Industry

IRWIN M. STELZER
IIIIIIII ASSOCIATES, INCIIIIII

Suite 202

1101 Seventeenth Street, N.W., Washington, D.C. 20036

Telephone: (202) 777-3000

Facsimile: (202) 777-3010

Klu

80463

Olmy

Wyni

Geoffrey N

For info

UMP

*Your energy policy folks might
find this of interest.*

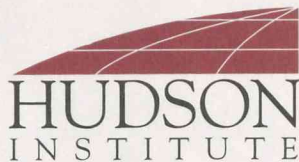
Irwin

With Compliments

314 South Mill, Aspen, CO 81611 Telephone: 970 920 1061 Facsimile: 970 920 1418

IRWIN M. STELZER ASSOCIATES, LTD

18b Charles Street, London W1X 7HB Telephone: 020 7667 6385 Facsimile: 020 7667 6460



**Oil Markets: Problems and Prospects With Special
Reference to the OPEC Cartel**

Remarks at The Aspen Institute Energy Policy Forum

Irwin M. Stelzer
Director of Regulatory Studies
The Hudson Institute

Aspen, Colorado July 3, 2001

“Energy is a wonderful servant, but a tyrannical master....
Freedom and energy go together. So do threats and
energy.” The Spectator, 30 June 2001.

We must count ourselves among the world's most fortunate people – and not only because we meet here in Aspen. Who would have dreamed that in this 21st century all of us – or at least some of us – would get to dust off and re-present the papers we presented in this Forum decades ago?

I believe Stephen Sondheim had moments like this in mind when he wrote:

Back in business
And ain't it grand,
Let the good times roll...
Back again like a boomerang,
Same old stand, same old gang,
Back in business with a bang,
Let the good times roll.

So here we are, even though only the most cynical among us could possibly have believed that the government would still be groping for an energy policy decades after we had told its energy policy-makers just what to do!

But failure is not a disqualifier in the energy policy-making business. So, as Frank Sinatra says, "Let me try again".

Any “policy” worthy of that name has two ingredients: it has a clear goal, and it bravely selects the means of achieving that goal. The administration has mixed neither of those ingredients into the stew that it calls its “National Energy Policy”.¹

The goal, as stated by the vice president, is “to promote dependable, affordable and environmentally sound energy for the future.”² Presumably, that is so that we can all bake apple pie affordably while praising our mothers.

To say that our goal is a “dependable” supply – President Bush prefers the phrase “a steady supply”³ – of “affordable” energy is to say nothing. If prices are left free to respond to the forces of demand and supply; if those prices are competitively determined and incorporate all of the external costs of production and consumption; and if no subsidies are doled out to producers or consumers, any supply of energy will be adequate in the sense that it will provide all the energy that everyone is willing to buy at the prices set in the market.

¹ National Energy Policy, Report of the National Energy Policy Development Group (hereinafter NEPDG), May 2001.

² Ibid., Transmittal letter signed by Vice President Dick Cheney, May 16, 2001.

³ Ibid., p. xv.

I leave to politicians the question of whether that supply is “affordable”. Prices will never be low enough to satisfy most politicians from consuming states, or high enough to satisfy inefficient producers, be they high-cost producers of oil and gas, subsidy-suckled producers of energy from renewable sources, or those living proofs that moral hazard exists, executives eager once again to build nuclear plants.

But only a retired (involuntarily, no doubt) Gosplan economist, or a failed Eastern European politician – both mercifully consigned to the dustbin of history – would confidently pursue the goal of “affordability” by setting energy prices below the market-dictated equilibrium level. If market prices are judged to be too high to be affordable by some chosen group, better to give them money – money to spend or not, as they wish – than directly to subsidize their energy consumption.

In short, the so-called goal of the latest edition of a National Energy Policy is more a wish than a goal, so vague as to be unattainable, but having the virtue of giving the great unwashed (no – not Californians who can no longer afford to heat water for their baths, but as Henry Peter

Brougham is thought to have used it some 150 years ago) the sense that the government knows where it is going.

The means selected to achieve the undefined goal hardly constitute a policy: they are more a list than a policy. Among other things, and in no particular order, it calls for:

1. More nuclear plants;
2. More drilling for oil and gas;
3. More pipelines, transmission lines and other bits of energy infrastructure;
4. More renewables;
5. More conservation;
6. More subsidies for various producers and researchers.

There is more of this "more", but you get the point: faced with Yogi Berra's fabled fork in the road, the administration took it.

But the absence of a clear goal and the refusal to choose among available policy options are the smaller part of the problem. The larger part is that even if some energy genie were to grant the administration all of its wishes, we would not achieve what should be our objective: freedom to set our own foreign policy and to manage our economy without fear that an oil cartel will again inflict a decade of

stagflation on American citizens. I would suggest to you that such a goal is far more important than solving the California energy crisis, or working out a détente between environmentalists and consumers, or reforming licensing procedures – all worthy goals, but none crucial to the nation's economic and political independence.

The unpleasant fact is that we do not have an “energy crisis” in the sense in which that term is generally understood. Californians may be poorer for awhile, and Texans richer, but that's hardly a crisis – indeed some in this room undoubtedly consider it a positive social good. We may end up paying a bit more for gasoline, or facing more volatility at the pump, but that is hardly the end of the world.

These issues seem to me interesting, and important to all of the players involved – witness the massive attendance at this meeting and the new spring in the steps of long-neglected energy policy mavens – but they are trivial compared to the real energy crisis: the fact that a small group of cartelists has the power to throw our economy into recession, and to dictate our foreign policy.

That crisis – the real one – dictates that our goal must be to break or at least to minimize the power of the oil cartel.

This is not a new call for “energy independence”;⁴ we will always depend on foreign oil.⁵ It is, instead, a call for the introduction of competition into the now-cartelized world oil markets. Like all ingredients of any sensible energy policy, it attempts to extend the reach and influence of market forces, to displace monopoly, and to avoid subsidies and other governmental intervention of the sort that has proved counter-productive in the past.

If we accept as a goal liberation from foreign threats to our economy and our ability to conduct our foreign policy, we must break the OPEC cartel’s chokehold on the prices we pay for the oil we consume. No amount of drilling in Alaska or offshore, no amount of nuclear plant construction, no amount of conservation can do that, at least in a time frame that has any significance for energy policy.

You are all too familiar with data as to OPEC’s portion of world output and reserves for me to recite those data

⁴ “Let us set as our national goal ... that by the end of this decade we will have developed the potential to meet our own energy needs without depending on any foreign sources.” President Richard M. Nixon, “Address to the Nation about Policies to Deal With the Energy Shortages,” November 7, 1973.

⁵ The NEPDG estimates that by 2020 Gulf oil producers will supply between 54% and 67% of the world’s oil. National Energy Policy, p. 8-4.

here. You are all too familiar with the inability of even the largest strategic reserve to overcome the inability of our politicians to figure out how to use it, for me to repeat the history of the SPR.⁶ You are all too familiar with the failure of past efforts to persuade our Arab friends to abandon their extortionate pricing practices for me to recount them here, or to have any need to suggest to you that recommendation that “the President direct the Secretaries of State, Energy and Commerce work to improve dialogue among energy producing and consuming nations”⁷ is vacuous in the extreme.

Let me turn now to some suggestions as to how we might free ourselves from OPEC.⁸ But to keep my anti-government credentials in order, I must first consider the possibility of doing nothing -- or its equivalent, demeaningly begging for mercy from what our president calls “our friends” in various OPEC capitals.

⁶ Anyone who wants to be convinced that there is no hope that we will learn how to manage the SPR need only turn to the National Energy Policy, at p. 8-17. “The NEPD Group recommends that the president reaffirm that the SPR is designed for addressing an imminent or actual disruption in oil supplies, and not for managing prices.”

⁷ National Energy Policy, p. 8-18.

⁸ Portions of what follows are contained in my “Breaking the Oil Cartel,” Outlook, September 2000, Vol. 2, No.2, published by the Hudson Institute.

Support for a do-nothing strategy comes from the fact that cartels have a history of collapsing when members begin to cheat on their quotas, or when the artificially high prices set by the cartelists attract non-members into the industry, augmenting supply and producing a price collapse. Both cheating and new entry have characterized the oil industry in the past, so why not apply the famous dictum, attributed to Ronald Reagan, "Don't do something, just stand there," a policy that often served the nation well during President Reagan's terms in office.

There are three reasons for rejecting this strategy. The first is the new-found cohesiveness of OPEC, which may prove a lasting result of a long period of \$10 oil.

Second, while waiting for the cartel to collapse, American consumers will pay a very substantial annual toll, and suffer the macroeconomic consequences induced by the payment of such a "tax" -- slower growth and higher inflation being the most notable.

Third, although best estimates are that there remain substantial undiscovered reserves of oil in non-OPEC areas, it is not safe to rely on new entrants to become sufficiently important to drive down prices in an industry in which incumbent cartelists sit on vast quantities of non-producing,

low-cost reserves. Potential newcomers to the oil game and those who finance them, and existing players who have to decide on their exploration budgets, are well aware that, should their exploration activities threaten the cartel, it can open its valves and make the new entrants' projects uneconomic. That doesn't mean that drillers are completely insensitive to the lure created by higher prices, but it does suggest that they respond more slowly and less completely to oil price run-ups than they would if the threat of OPEC predation did not loom over their spreadsheets.⁹

So, too, with developers of alternatives to oil-using technologies. These entrepreneurs have long complained that they find it difficult to get financial backing because potential investors know that the Saudis and their cartel colleagues can at any time force oil prices down and make promising alternative technologies uneconomic. Indeed, even a threat to step up production can discourage entry.

⁹ Consider the case of the North Sea, a producing region not officially in OPEC's control. Malcolm Brinbde, head of Shell UK, one of the largest North Sea operators, says that "At \$16 the North Sea has a future." *Financial Times*, March, 23, 1999. But any company contemplating an expansion of its activities in that area must reckon with the fact that the cartel members can profitably produce oil at \$5 per barrel, and might choose to open their taps if North Sea oil threatened to interfere with their pricing goals.

The Saudis, with almost 100 years of proved reserves and more to be found with little effort, are in the business for the long pull, and will do what it takes to discourage investors in new technologies from seizing their markets. Although the development of alternatives to oil as an automotive fuel are likely to continue, other technologies face an uphill battle in the face of OPEC's ability to pick price points that can change the economics of these alternatives from attractive to dismal.

These hard facts suggest that passivity is not an appropriate energy policy for America. Nor is the policy selected by the administration. The OPEC stranglehold cannot be broken by drilling in previously off-limits areas; it cannot be broken by forcing people to sweat in summer, shiver in winter, and consign their fates to small, unsafe cars; it cannot be broken subsidizing nuclear plants or wind machines; and it certainly cannot be broken by supply-constricting price control.

Instead, we need a policy that is aimed at making oil markets work better -- not as a perfectly competitive market would operate, but at least as an effectively competitive one would. Call it a market-based, oilcentric energy policy.

On the demand side, that means making the prices

that signal consumers, who must choose between use and abstinence, correctly reflect all of the costs (private and social) associated with a decision in favor of use. On the supply side, a market-oriented energy policy must seek to eliminate or, if that is impossible, counteract artificial constraints on the ability of supply to respond to price signals.

The first step in mounting a credible attack on OPEC's supply constraints is to recognize that Mexico is a key player in the recent trebling of oil prices. Although not a member of OPEC, Mexico brokered a deal between Venezuela and Saudi Arabia that eventuated in the sharp cutback in output that triggered the price rise. Both Venezuela and Saudi Arabia sell large quantities of oil to the United States. For years they worried that if they cut back their production, Mexico would step up its oil output and capture U.S. markets previously served by the two OPEC members.

When Mexico decided to participate in any supply curtailment to which OPEC members might agree, its then-energy minister, Luis Téllez, brought previously antagonistic Venezuela and Saudi Arabia to the bargaining table, and cleared the way for their agreement to close their valves by promising not to open his. Téllez has made no effort to keep

his role a secret. He told a Madrid gathering of oil industry executives and policy makers, "To stabilize prices and avert another financial crisis, it was clear that, for the short term, we would have to work with other oil producers to limit production. So, for the first time in Mexican history, we charted an aggressive diplomatic policy to bring together several important oil producers that had been at odds within OPEC."¹⁰ The result: a trebling of world oil prices.

Query: why is the American government, which has bailed out the Mexican economy when the peso collapsed and has bestowed the benefits of NAFTA on Mexico, reluctant to read the riot act to the Mexican government (and not only on oil matters: Mexico is also way behind in its promised deliveries of water from the Rio Grande¹¹)? True: the benefits of NAFTA are not Mexico's alone. American consumers are also beneficiaries of the increased improvement in the international division of labor. But sometimes policy trade-offs must be made, and it would seem that the first step in an effective energy policy, one that

¹⁰ Statement at Repsol-Harvard Seminar, Madrid, June 1999. The Wall Street Journal (February 11, 2000) calls Mr. Téllez "one of the main architects of the global output cutbacks that have sent oil prices soaring..."

¹¹ The Economist, May 27, 2000, p.65.

aims to bring the price of oil closer to the level that would prevail in a free market, might well be to explain to the Mexicans that they cannot hope to sell the output of their *maquiladoras*, and their t-shirts, trainers and automobiles to us unless they also offer us oil at competitive prices.

Nor should we fail to explain that the health of our economy depends on an assured supply of competitively priced crude oil, and that only a healthy economy can provide jobs for immigrants, legal and otherwise. For president Fox to continue in the belief that we will permit him to export his impoverished, unemployed citizens while he refuses to export his oil, and to allow us to assist him in increasing those exports, seems to me the opposite of sensible policy.

The temporarily lost benefit of low-cost Mexican consumer goods and hard-working immigrants would surely be more than offset by the lower oil prices that would result from such a demonstration of our willingness to use our massive purchasing power and job market to persuade Mexico that it is not in its long-term interests to facilitate and participate in the exploitation of the American consumer.

A similar approach might be taken to Kuwait, a nation on which Saddam Hussein still has designs. Kuwait

possesses about 10% of the world's proved reserves of oil, but accounts for only some 3% of world output. It is one of the OPEC members with large amounts of spare production capacity, giving it the ability to turn on its taps on short notice. Put another way, the country that we saved from destruction, while its ruling family waited out the war in the Dorchester and in Harrods, could continue to produce at current levels for well over 100 years without discovering another barrel of oil. We might even consider establishing a policy that relates our contribution to Kuwait's defense to the level of oil output set by the Kuwaiti royal family!

Again, we face a trade-off. If we threaten to abandon the Kuwaitis to their fate unless they step up production, we are threatening ourselves with the loss of the country's oil and the aggrandizement of the Iraqi despot. But the consequences to us would be some inconvenience; the consequences to the Kuwaitis would be annihilation. Guess who would blink first.

Another plank of any sensible energy policy would involve a review of our sanctions program, an idea

fortunately reflected in the administration's energy plan.¹² Libya, Iran and Iraq between them account for almost one-quarter of the world's oil reserves (approximately 3%, 10% and 10%, respectively). Our reasons for pressing our balky allies to continue the embargo against Iraq remain as strong, or stronger, than ever, although the embargo is increasingly porous and under continuing threat from the French, who boast that they have never allowed questions of morality, or notions of gratitude and loyalty to allies, to interfere with their commercial interests.

But a relaxation of the embargo of Iran might -- just might -- prove justified if a deal could be struck with that increasingly hard-pressed country. Reliable sources say that Iran's oil industry is badly in need of investment if it is even to maintain its production capacity at current levels. It is in our interest as well as Iran's for that country to increase its proved reserves and its capacity to produce those reserves - - but only if Iran agrees, in return for the lifting of the ban on American oil company investment, to step up output

¹² The NEPDG recommends "a comprehensive review of sanctions. Energy security should be one of the factors considered in such a review." National Energy Plan, p. 8-6.

sufficiently to bring world oil prices closer to the marginal cost of exploration, development and production.

Then there are our antitrust laws, statutes from which the Arab and other oil producers have been uniquely exempt for political reasons. That the laws could be used to prosecute the cartelists there is little doubt. After all, the Department of Justice has successfully brought actions against German, Japanese and French cartels in products as diverse as citric acid, lysine, vitamins and fax paper. In most of these cases the cartelists had no offices in America; they merely sold products here. Indeed, in the case of fax paper, the 1st Circuit Court of Appeals has upheld the Antitrust Division's suit against Nippon Paper, a company that did not sell directly to the United States, but fixed the prices of those who did.

It is of course the case, as my lawyer friends point out, that American law grants foreign sovereigns immunity from antitrust prosecution, and grants similar immunity to companies acting under the compulsion of foreign sovereigns. But that law is no real barrier to protection if there is a will to move against OPEC. For one thing, the so-called "commercial activity exemption" allows the Antitrust Division to proceed if it decides that the sovereign

governments are engaged merely in commercial activity, like selling oil, which the OPEC members contend, presumably with straight faces, is much more than mere commercial activity -- it is, they say, the preservation of their national patrimony. For another, laws can be repealed or amended: this exemption can always be removed.

Such a move would permit the antitrust authorities to take action against the Saudis and other producing countries, all of which have substantial assets in America, assets that could be attached to satisfy any legitimate claims against those governments and the companies cooperating with them to maintain oil prices at anticompetitive levels. But it seems that a variety of political considerations (most notably pressure from the Arabists in the State Department) have stayed the Antitrust Division's hand by preventing it from using the commercial activity exemption or obtaining the necessary legislation from congress -- although what we have gotten from countries that refuse to cooperate with our president in negotiating a settlement in the Arab-Israeli dispute, and that persist in conspiring to elevate the level of world oil prices is difficult to discern.

Please understand: I am not suggesting that we take an all-or-nothing gamble on breaking the OPEC cartel. I have

elsewhere set forth other steps that need to be taken to make our energy economy – both the producing and the consuming sectors – more efficient.¹³ But no energy policy is worthy of the name if its goal is merely to make our lives a bit more comfortable, and to give politicians something they can tell their constituents they did in the great energy war.

The energy battle rises above the trivial only if it has a grander ambition – an end of the payment of tribute, greater control of our economic circumstances, and freedom to pursue a policy in the Middle East that favors our allies without fear that the cartel will unsheathe its famous oil weapon.

¹³ See my “Breaking the Oil Cartel,” Outlook, September 2000, Vo. 2, No. 2, published by The Hudson Institute.

 Callum McCarthy
Chairman of the Gas and Electricity Markets Authority,
Chief Executive of Ofgem

KMc



Mr Geoffrey Norris
Special Advisor - Policy Unit
Prime Ministers Office
10 Downing Street
London
SW1A 2AA

Bringing choice and
value to customers

Direct Dial: 020 7901 7334
Email: callum.mccarthy@ofgem.gov.uk

Thursday, June 28, 2001

Dear Geoffrey

Ofgem has published draft proposals for the Transco price control review for the period 2002 – 2007.

This price review is significantly different from any which has previously occurred. There are three concerns which have informed Ofgem's approach:

- for the first time the price control defines outputs, as well as assessing the appropriate level of inputs. These new outputs will determine what customers can expect from Transco - for producers, the level and timing of investment in the National Transmission System (NTS), and for domestic customers the standards of service in the local distribution zones (LDZs). This represents a significant improvement in the price control process and will bring more certainty to Transco and to its customers.
- these proposals also recognise that the period of the next price control is one of change and ensure that there is sufficient flexibility for Transco to cope with this. For example, in recognition of the growing demand for gas and uncertainty over where it will be sourced, Ofgem's proposals equip Transco with better signals and stronger financial incentives to invest in the development of the NTS, at the right time and at the right terminals, to ensure security of supply. Second, the Health & Safety Executive (HSE) will in due course determine its requirements for Transco to maintain a safe gas network. This decision will drive Transco's cast iron mains replacement programme and could have considerable implications for expenditure. Whatever decision the HSE takes, Ofgem's proposals will ensure that Transco, operating efficiently, is able to meet the HSE's requirements and to fulfil its legal duties to operate and maintain a safe and efficiently run gas network.

- Ofgem's proposals recognise that Transco is now operating a number of different businesses – national transmission, local distribution and metering - and that within these businesses it plays different roles – asset owner and system operator. Separate price controls have been set to better incentivise Transco's performance in these different business areas.

In summary, Ofgem's proposals meet its principal objective to protect customers on price, quality of service and security of supply. By resolving, once and for all, the definition of Transco's regulatory asset value (a matter left 'open' in the two preceding reviews), giving certainty on safety-related expenditure and setting a cost of capital of 6-6.25% at the top of our range, Ofgem has also created a stable, forward-looking regulatory environment and in so doing has met its duty to ensure that Transco can continue to finance its operations.

I enclose a summary of the price control proposals on which we are now consulting (the full proposals are available on the Ofgem website – www.ofgem.gov.uk). Final proposals will be published in September 2001.

If you have any queries, my colleagues and I would be happy to discuss these.

Yours ever

Callum

Callum McCarthy
Chairman of the Gas and Electricity Markets Authority & Chief Executive of Ofgem

Transco Price Control 2002-2007

Draft proposals

Ofgem's proposals

- meet Ofgem's primary duty to protect customers on price, quality of service and security of supply.
- recognise how much Transco's business has evolved by setting price controls for the different parts of its business – National Transmission System, Local Distribution Zones, metering – and for the different roles it plays – asset owner, system operator.
- significantly improve the price control process with a focus on customer outputs – both for major energy users on the National Transmission System and for domestic customers.
- recognise changes in demand for gas and give Transco new incentives and tools to invest in the National Transmission System to ensure a secure and safe supply for the future.
- ensure that Transco will be able to finance a pipeline replacement programme based on safety requirements, presently being agreed with the Health and Safety Executive.
- base the allowance for capital, repair and maintenance and operating expenditure on Transco's own initial plans.
- resolve outstanding financial issues and set a cost of capital which is commensurate with the risks Transco faces.

Ofgem's proposals create a forward looking and stable regulatory environment for Transco to deliver a safe and secure gas supply to customers at a fair price.

Form and scope of control

- The RPI-X formula will be retained
- At the last review a price control was set for Transco's gas transportation business as a whole. Ofgem's new proposals create separate price controls to recognise and incentivise Transco's different businesses and roles
- Separate price controls will be set for Transco for the National Transmission System (NTS) and Local Distribution Zone (LDZ) businesses
- On the NTS, separate price controls will be set for Transco's two roles as transmission asset owner (TO) and system operator (SO)
- The 12 LDZs will have one price control
- Separate controls are set for metering and meter reading businesses

New customer targets and incentives for Transco

- Ofgem's proposals put in place new arrangements to incentivise Transco to deliver a better service to all its customers – be they producers on the NTS, or domestic customers in the LDZs
- On the NTS, Ofgem's proposals give Transco better information to improve its decisions about where and when to invest. If it responds well to these signals it will be allowed to keep extra revenue earned from the investment. If it does not it will be penalised
- In the LDZs, new standards have been set, for example, to reduce the number and duration of customers' interruptions. For the first time, Transco's LDZ revenues (up to 2%, some £40 million) will be put at risk if it does not meet these

	MMC 1997	Transco proposals	Ofgem proposals
Regulatory value	Unfocused	Unfocused	Unfocused
Cost of capital	7.0%	at least 7.0%	6.0-6.25%
Forecast Operating expenditure (five year total)	£7.9 billion	£6.4 billion	£5.3 billion
Forecast annual reduction in operating expenditure	5% (1997/1998 – 2001/2002)	0% (1999/2000 – 2006/2007)	3.5% (1999/2000 – 2006/2007)
Forecast Capital expenditure (five year total)	£3.0 billion	£2.4 billion	£1.9 billion
Forecast Replacement expenditure (five year total)	£1.5 billion	£2.0 billion	£1.7 billion
Reduction in Transco's cost	P0 cut 21% X 2%	– –	14% 2%

Financial Issues

- Following the last price control determined by the MMC, the approach to setting the regulatory value of Transco's assets was left open
- Ofgem's proposals close this issue once and for all
- Ofgem has determined that the 'unfocused' method is the right approach
- This decision reduces regulatory uncertainty and therefore risk. This, coupled with Ofgem's view that Transco is a low risk business, leads Ofgem to use, for its base case, a cost of capital of 6.1 per cent
- Cost of capital is the interest payable on debt finance, and return to shareholders

Operating Expenditure

- This is the revenue allowed for day-to-day costs such as staff, I.T. and insurance
- Transco have proved themselves efficient in the past, decreasing expenditure by 4.3 per cent per annum over the last price control period
- Ofgem is proposing an allowance of £5.3 billion based on Transco's initial business plan

Capital Expenditure

- This is the investment in the capacity of the pipeline system allowed as part of the Regulatory Asset Base
- Ofgem is proposing a new regime to improve investment decisions in the NTS
- There will be rewards (and penalties) according to performance

Replacement Expenditure

- This is revenue allowed for mains pipeline replacement programme
- The programme will be based on the safety requirements set by HSE – these are under review at present
- Ofgem will allow sufficient revenues to meet the efficient costs of achieving the programme agreed with HSE

Gas bills

These proposals mean about £15 off the average domestic gas customer's bill.

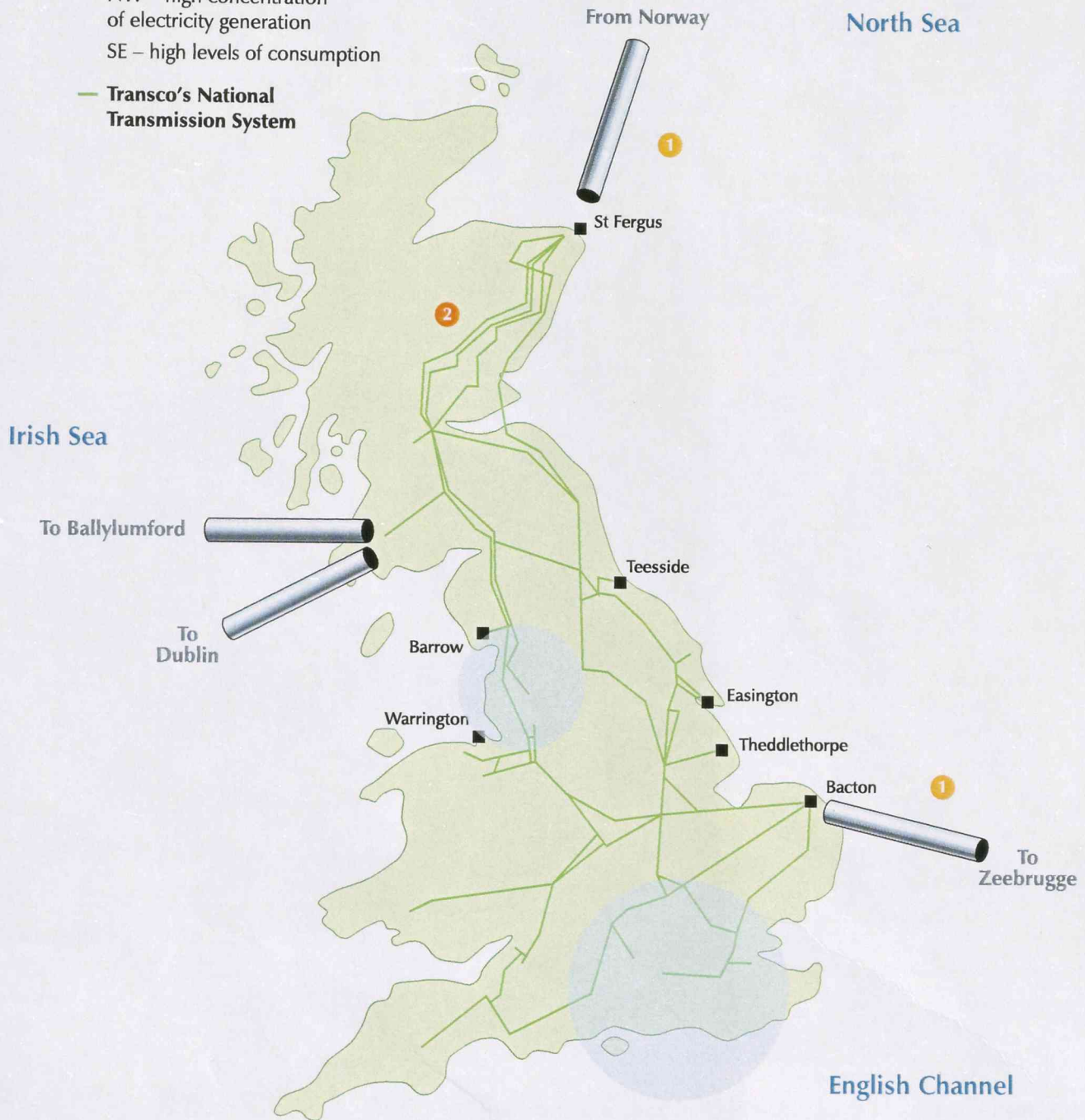
How does Gas reach our homes?

■ Terminals

● Areas of High Demand

NW – high concentration of electricity generation
SE – high levels of consumption

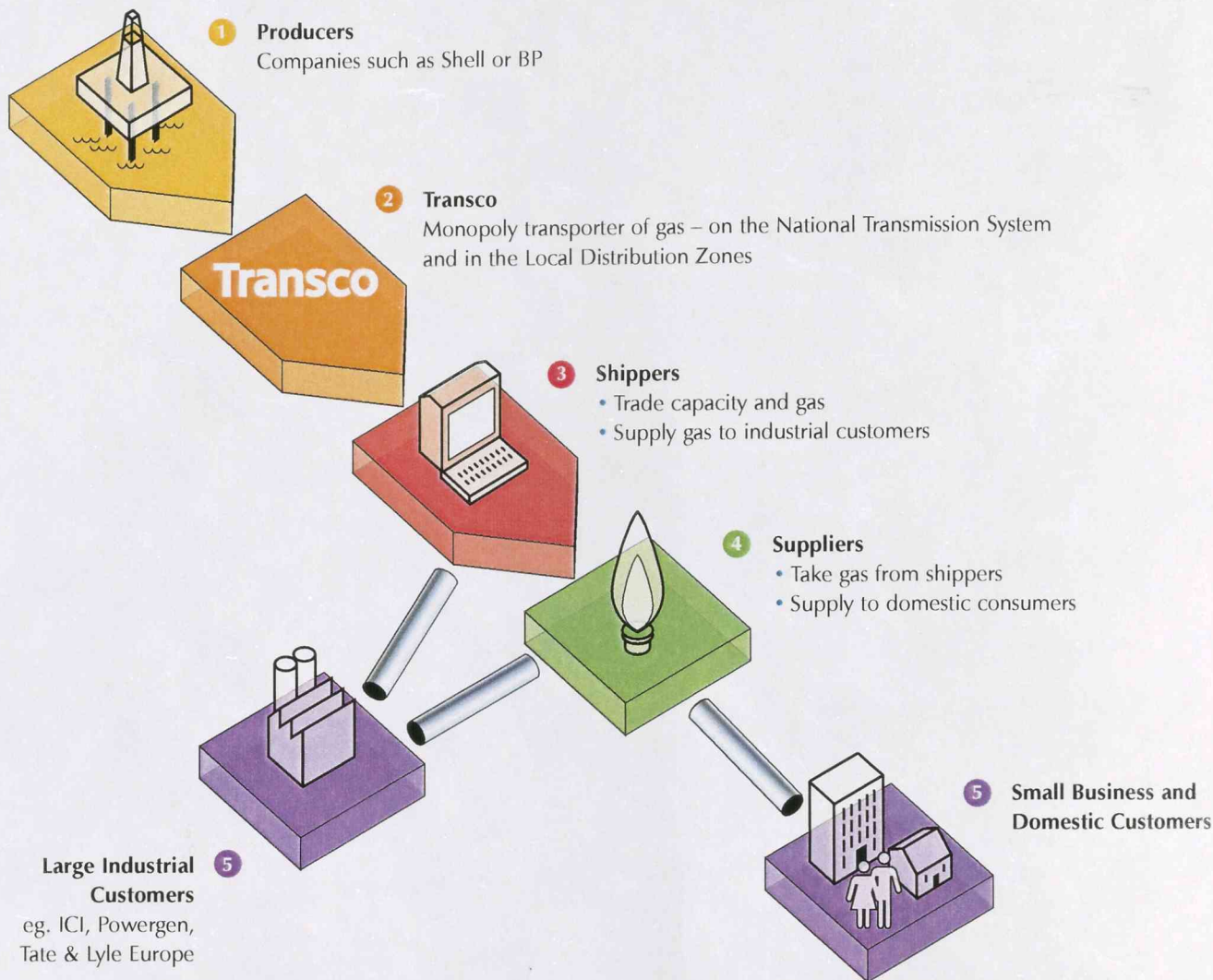
— Transco's National Transmission System



- 1 Most of Britain's gas comes from beneath the North Sea and Irish Sea and from the interconnector – a major pipeline that links Britain to the European Gas Network.
- 2 Most pipelines are owned and operated by Transco and are divided into the high-pressure National Transmission System (NTS) and 12 low-pressure Local Distribution Zones (LDZs).

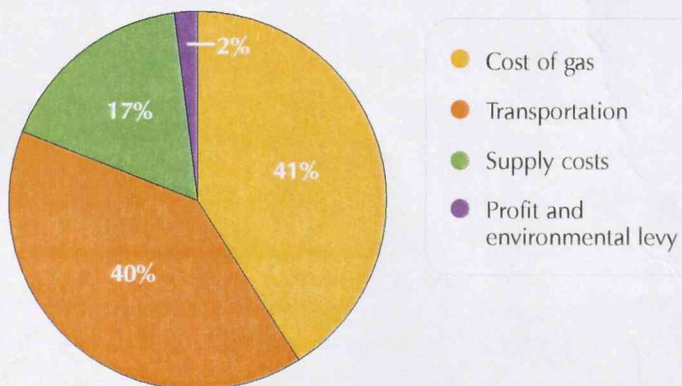
Demand for gas

- Demand for gas in Great Britain has grown. We now use 66% more gas in this country than we did in 1992. A lot of this is used to generate electricity. Electricity generation accounts for 32% of gas used in the country.
- Ofgem's proposals give Transco new incentives to invest in the National Transmission System to meet demand and to ensure a secure supply for the future.



How are gas bills made up?

- The cost of transportation makes up 35-40% of the domestic bill
- Between 1994 and 2000, Transco's transportation charges fell by 16.2%
- This represents a saving of £480 million per year for customers
- The new proposals cut transportation charges by a further 14%



Gas Prices in Britain

- The annual bill for a BGT customer with medium usage, paying by Standard Credit, is around £331
- Despite higher gas prices in recent months, prices in Great Britain are still among the lowest in Europe
- 6.1 million gas customers have switched supplier
- Customers who switch can save up to £60 per year on their gas bill
- For more information on switching supplier ring the energywatch helpline on 0800 887777

The Rt Hon Patricia Hewitt MP
Secretary of State for Trade and Industry



Simon Virley Esq
Private Secretary to the
Prime Minister
10 Downing Street
LONDON
SW1A 2AA

cc LL

PR energy

Secretary of State
Department of
Trade and Industry

1 Victoria Street
London SW1H 0ET

Direct line
020 7215 6272

DTI Enquiries
020 7215 5000

e-mail
mpst.hewitt@dti.gsi.gov.uk

27 June 2001

Dear Simon

Renewables Obligation statutory consultation

I enclose a copy of the consultation document and RIA for the Renewables Obligation.

We will of course be seeking Ministerial clearance once the full Cabinet Committee structure is in place. However, in the meantime we wished to put the process for clearance into motion, and I would be grateful if all Private Offices could treat this as a Cabinet Committee letter, and pass on to the appropriate officials. When we write formally, we will be asking for clearance from the relevant Committee by 11 July.

I am copying this to Private Secretaries in all Cabinet Ministers' offices, and in Sir Richard Wilson's office. I am also sending this to the appropriate Ministers' offices in the devolved administrations, Sir Reg Empey, Ross Finnie, and Michael German.

Yours sincerely

Damian Nussbaum

DAMIAN NUSSBAUM
Private Secretary

dti

Department of Trade and Industry

The Renewables Obligation statutory consultation

We have set ourselves the target of securing 10% of our electricity from renewable sources by 2010, as part of our Climate Change Programme to meet our Kyoto commitments. The Renewables Obligation, a requirement on electricity suppliers to supply a percentage of their total sales from renewable sources, plays a key role in enabling us to reach that target, and is important in establishing our environmental credentials. We have committed ourselves to a challenging target and now we must be seen to deliver against our commitment. A preliminary consultation elicited over two hundred responses and, having considered the issues raised, I seek your agreement to publish more detailed proposals, prior to placing an Order before Parliament.

Whilst the target for renewable energy is UK-wide, promotion of renewable energy has been devolved to the Northern Irish and Scottish administrations and the Scottish Executive published a consultation document similar to our preliminary consultation document earlier this year. We propose that there will be a common Obligation percentage for Scotland, and England & Wales. Whilst the majority of the provisions of the Obligation will also be common, there may be some differences to reflect regional concerns. The Northern Ireland administration is currently considering possible support mechanisms for renewables. Our targets are extremely demanding and will be difficult to achieve. There are other constraints to the development of new renewable energy capacity, most notably the planning system and the New Electricity Trading Arrangements (NETA). Action to address these constraints will be required if we are to reach our targets.

Proposed changes to original proposals

The majority of responses to the consultation were supportive of the proposed Obligation but a number of issues were raised. On the basis of the responses received and subsequent discussions between my officials and those in the other departments involved, I propose to make a number of changes to the original proposals.

Imports

I am concerned that the development of UK renewables generating capacity may be inhibited by significant imports of renewable energy from other Member States where there is significant state support for the electricity industry and that such imports, unless matched by equivalent additional outflows of electricity, (something that would be very hard to demonstrate), would not help the UK meet its climate change targets. I therefore propose to exclude electricity generated outside the United Kingdom from the Obligation, until a sensible Europe-wide mechanism for renewables support and trading is in place. Although the European Commission has been working on such a scheme, there are numerous difficulties and progress has been very slow. In the meantime, we believe that a number of other member states are using schemes to support renewables where the support is effectively restricted to local renewables. This restriction on imports will need to be addressed in due course, in the light of developments to liberalise European energy markets. Electricity from Northern Ireland, which is not covered by the Obligation, would be eligible for the Obligation once the interconnector with Scotland is completed in the next year.

State Aid implications

The Obligation may well qualify as a state aid and we are currently in discussion with DG Competition about it. The proposed changes, especially the restriction on imports, will also need to be cleared with them. The Commission can be expected to undertake a thorough examination of the proposed changes, not least because of the risk that they may prompt a challenge by a third party. Although the Commission attitude is not yet clear, there is a risk that they will seek changes to the Obligation, which could impact on the implementation timetable. We will be seeking to ensure that any problems are identified and resolved as quickly as possible, and we hope to persuade the Commission that such restrictions to imports are justified, mainly on environmental grounds, and are therefore acceptable.

Energy-from-waste

The preliminary consultation proposed that all energy-from-waste would be included within the overall renewables target but excluded from the Obligation. I now feel that it is difficult to justify calling renewable the energy obtained from the fossil-derived element of waste, such as plastics. I therefore propose to exclude the energy from the fossil-derived element of waste from counting towards the renewables target. Whilst this will make our target harder to achieve, I believe it is consistent with our broad policy intention of reducing fossil carbon emissions and with the proposed EU Renewables Directive. In a recent letter, Michael Meacher has suggested that we do not count any energy-from-waste incineration towards our targets. I am concerned that this would introduce an additional cost burden of some £50 million onto consumers, and will make our targets even more stretching, but I would welcome your thoughts on Michael's proposals.

The preliminary consultation proposed that energy from biomass be eligible for the Obligation, regardless of the source of the biomass (whether purpose-grown or waste) and regardless of the technology used to convert the biomass to energy, as long as the fuel stream was over 98% organic. Michael has also expressed the view that no energy from the incineration of municipal waste should be eligible for the Obligation. We wish to avoid artificial distinctions between different forms of biomass, but see some merit in ensuring that the incineration of household waste is not encouraged by the Obligation. We believe that requiring a 98% organic content will exclude even incineration of highly separated domestic waste, whilst avoiding artificial distinctions between waste and biomass.

I am however very keen to promote energy from waste technologies more advanced than incineration, such as pyrolysis, gasification and anaerobic digestion, which have strong environmental benefits over incineration and which support recycling. I propose to encourage the take-up of these technologies, therefore, by including within the Obligation energy from the non-fossil component of mixed waste using these technologies, whilst excluding incineration.

Large hydro

Much of the UK's current renewable energy comes from hydroelectric stations, the majority of which are elderly and in need of refurbishment and most of which are located in Northern Scotland. The required refurbishment, particularly for the smaller stations below 20 MW, is not economically viable at current electricity prices, and without refurbishment, there is a significant risk that these stations will be abandoned in the next few years. It would be disastrous if the stations were abandoned, just as we are looking to develop UK renewable generating capacity. I therefore propose the inclusion of output from refurbished hydro stations of up to 20MW capacity within the Obligation. Should this give rise to excess revenue over and above the costs of refurbishment, some of the excess could be transferred to the distribution business through existing licence provisions, so there is the possibility of lower distribution charges for Scottish consumers and less chance of a windfall profit for the owners. I also propose the inclusion of all new hydroelectric stations regardless of capacity.

Other measures

In order to stop consumers incurring the dead-weight costs of supporting fully depreciated plant I propose that electricity generated by stations operational prior to 1990 would not be eligible for the Obligation, unless refurbished or converted to co-firing. In the long-term, energy from specifically grown biomass, known as energy crops, will make a significant contribution but is currently hampered by a lack of available crops. In order to encourage the development of energy crops, I propose to allow co-firing – using renewable sources alongside fossil fuels in existing stations designed for fossil fuel generation – within the Obligation until 2011. The renewable element must be at least 75% energy crops from 2006, and co-firing may only fulfil up to 25% of a supplier's Obligation. These restrictions are designed as a transitional step towards the development of electricity generation based on energy crops which is not reliant on the use of fossil fuels.

Cost

We previously made a broad brush estimate that by 2010 the Obligation could add some 3.7% to the average cost of electricity to consumers. Taking account of the above changes, and more thorough analysis of the cost impact, we now estimate that by 2010 the Obligation could add some 4.5 % to average prices from a baseline of 1999 actual price levels. The worst-case cost to consumers is estimated at some £800 million by 2010, but may be increased by about £100 million if licence-exempt suppliers, many of whom would be CHP operators, charge more because the price of licensed supplies would be boosted by the Obligation. The actual increase could be less, as competitive forces within the market for renewable energy that the Obligation will create will put downward pressure on the price of renewables. I believe that this is a price worth paying for addressing the problem of climate change and should be seen against the backdrop of electricity prices that have fallen significantly over recent years.

Regulatory Impact Statement

A full Regulatory Impact Assessment has been conducted, and I am satisfied that the proposed Order would not have a disproportionate impact on a particular group and that the benefits justify the costs. The Obligation would save an estimated 2.5 million tonnes of carbon emissions by 2010, at a cost to consumers of up to about £360/tonne carbon. This may seem a high figure but the cost to UK plc should be a good deal lower since some lower cost renewables generators will be receiving prices higher than their generation costs. This is an integral feature of a market-driven approach to renewables support whereby higher profits for some serve to encourage greater activity in the sector. And to the extent that the Obligation also encourages CHP by licence-exempt suppliers, the carbon savings could be greater than estimated. The Obligation will create a significant renewables base in the UK from which further expansion could be undertaken and which will contribute to diversity and security of supply.

Next steps

The responses to the preliminary consultation expressed a strong desire for an early implementation of the Obligation, given the long lead-in times for the significant investment that will be required. I wish to announce the statutory consultation on these detailed proposals in early July, so that the Order can be laid before the House in October and be brought into effect on 1 January 2002. This timetable will be dependent on obtaining the necessary State Aid clearance in good time. I attach a copy of the draft statutory consultation document for your information, and I am copying this letter to members of the Cabinet Economic Affairs Energy Policy Subcommittee and to Richard Wilson. I shall be writing separately to the devolved administrations. Our renewables targets have a high-profile and I believe we must make all due haste to introduce the Obligation and be seen to deliver on our commitments. I would be grateful therefore, if you (and the copy recipients) can confirm that you are content with these proposals by close of play on 11 July 2001.

The Renewables Obligation

Statutory Consultation

Index

Executive Summary	13
Summary of changes.....	17
Renewable Energy	19
Government policy on New & Renewable Energy.....	20
Policy Aims	20
Targets	21
Policy Instruments	22
Timetable	23
The Renewables Obligation	24
Implementation date	24
The Government's commitments	24
Role of Ofgem	24
Basis of calculating.....	25
Electricity generated outside of the United Kingdom.....	26
Eligible technologies.....	27
Eligible stations	29
Awarding of ROCs.....	30
Banking & Borrowing	30
Presenting of ROCs.....	31
Buying out	31
Recycling of buyout	32
State Aid Clearance.....	32

Annex A: The Renewables Obligation draft order.....	33
Annex B: Regulatory Impact Assessment	34
Annex C: Other Policy Instruments	35
Capital Grants	35
Offshore Wind.....	35
The New Opportunities Fund	36
Renewables Fund/PIU study	36
Climate Change Levy exemptions	37
Research & Development.....	38
Annex D: Other issues raised in Preliminary Consultation.....	41
Green tariffs.....	41
Embedded generation	41
NETA.....	41
Planning	41
Offshore Wind.....	43

INTRODUCTION BY PATRICIA HEWITT, SECRETARY OF STATE FOR TRADE & INDUSTRY

Renewable energy is increasingly important to our country. I see the development of renewables as a vital part of the wider sustainability agenda with important implications, both nationally and internationally.

We are now looking to accelerate the development of renewables - and in a wide range of technologies. We have set a target of 10% renewables electricity by 2010, subject to the cost being acceptable to the consumer. This is a very challenging target but one we are determined to see through. The 10% target is intended to act as a stimulus to industry and provide milestones for progress monitoring.

To help industry deliver the target, we are putting in place a raft of measures, of which the most important instrument is the Renewables Obligation, which is the subject of this statutory consultation. The Renewables Obligation will provide the impetus for the new generating capacity to be developed that will be required to meet our current targets and as a basis for further reductions in carbon dioxide emissions. Other measures include :

- the exemption of renewables electricity from the Climate Change Levy,
- a package of direct financial support worth over £260 million over this and the next two financial years
- freedom for existing NFFO projects to move location to overcome planning difficulties; and
- a new regional approach to planning and targets for renewable energy.

Because the Renewables Obligation is the single most important measure we are taking, it is vital that we get the detail right. We have taken on board many of the views expressed in the earlier consultation on the Obligation in producing this final, statutory consultation paper.

I have been greatly encouraged by the positive reception that our earlier consultation received and the growing enthusiasm in the industry to rise to the challenge set

before us. I detect a real sense of renewable energy shifting up a gear, making the transition from the fringes of the environmental scene into the heart of the energy and sustainable development communities.

Whilst this is an ambitious target, it is not an end in itself. I do not want to see renewables stop at 10%. I want to see a strong, world-beating industry develop in the UK. I welcome your comments on our proposals.

Patricia Hewitt

Secretary of State for Trade & Industry

Executive Summary

The Government's policy on renewable energy, published in February 2000 following extensive consultation¹, aims to increase the contribution of renewable electricity in the UK to 5% of total available electricity by the end of 2003, and 10% in 2010. Whilst the renewable energy target is UK wide, the responsibility for bringing forward measures to support renewables in Scotland and Northern Ireland has been devolved to the Scottish and Northern Ireland administrations respectively. A key policy instrument to deliver this growth in the renewables sector is the Renewables Obligation, for which provision is made in the Utilities Act 2000 and which was the subject of a preliminary consultation in October 2000. Some 200 responses were received to that consultation and, following analysis, this statutory consultation describes the Government's proposals for an Order to be laid before Parliament in October this year. This consultation document addresses the proposed Order for England and Wales solely. Comments are invited from the wider community, as well as the statutory consultees, on these detailed proposals. Responses should be made by [28th September], ideally by email, and a series of meetings to discuss the proposals will be held on 10th & 11th September. Responses will be published on the DTI website unless marked 'Confidential'.

The Obligation should be seen as part of the UK's Climate Change Programme and as part of a wider programme to support and develop the renewable energy sector. In addition to the Obligation, exemption from the Climate Change Levy will provide a further incentive for the uptake of renewable generation. The Government continues to invest in renewables research and development, both through the Research Councils and through the DTI's own research and development programme. A programme of capital grants worth £39 million for offshore wind has been announced by the DTI, and DEFRA have announced establishment grants for energy crops totalling £29 million. The New Opportunities Fund are also funding offshore wind, energy crops and small-scale biomass heat projects to the tune of £50 million. Another £10 million has been made available to fund the launch of a major market stimulation programme for solar photovoltaics, aimed at matching the major solar

¹ Department of Trade & Industry (2000), *New & Renewable Energy: Prospects for the 21st Century: Conclusions in response to the Public Consultation*; London: DTI

roofs programmes of our competitors (Germany & Japan). In March, the Prime Minister announced a further £100 million of support for renewables, which will be allocated following the Cabinet Office Performance and Innovation Unit's report into the long-term future of renewable energy due later this year. In total, over £250 million has been committed over the next three years to develop the UK's renewable energy resources. The Obligation will create a strong and growing market, worth up to £1 billion by 2010, for the generated output of the renewables sector. More details on the other renewables policy instruments can be found in Annex C.

The Renewables Obligation will place an obligation on all licensed electricity suppliers to source a growing percentage of their total sales from eligible renewable sources. Most sources of renewable energy will be eligible, although existing large hydroelectric stations (over 20MW) and energy recovery from the incineration of non-biomass wastes would be excluded. Compliance with this Obligation will be demonstrated by presenting Renewable Obligation Certificates (ROCs) to Ofgem in respect of year-long periods. These certificates will be issued to accredited generators for eligible renewable electricity generated within the UK and supplied to GB customers. As an alternative to supplying renewable energy, suppliers may fulfil part or all of the Obligation by paying a 'buy out' price to Ofgem, which will be set at 3p/kWh until 1st April 2003 and thereafter be adjusted in line with the retail price index (RPI). The proceeds from such buying out will be returned to suppliers by Ofgem, according to the amount of eligible renewable electricity, represented by the ROCs, that each supplier presents to discharge the Obligation. There is therefore a strong financial incentive to fulfil the Obligation through presenting ROCs, rather than buying out. Subject to specified limits, ROCs can be banked and used in the following year from the year of generation, but we do not propose to allow any borrowing from future years or banking from longer than the previous period, as had been earlier suggested.

The maximum additional costs of meeting the Obligation, estimated at around £780 million per year by 2010, will lead to an increase in electricity prices of around 0.5% per year. We believe that this is a price worth paying to address the problem of climate change, and represents good value for money, at around £360/tonne of carbon, in reducing the UK's carbon dioxide emissions. It is anticipated that the Obligation will start on 1st January 2002, following Parliamentary and State Aids approval if required, and that it will remain in place until March 2027, giving long-term stability to the renewables market. As the effects of climate change continue to be

felt, the need for carbon dioxide emissions reduction is likely to increase. The Obligation will be reviewed in the light of performance to date, new European legislation, and the best scientific advice at the time. Such a review may well lead to an increased Obligation in the future but the Government does not intend to reduce the Obligation whilst it is in force.

A draft order is attached to this consultation in Annex A and Ofgem will be publishing their draft procedures separately. Responses to specific issues raised in the Preliminary Consultation that do not relate directly to the Order are presented in Annex D.

1. Introduction

1. The Utilities Act 2000 made provision for an Obligation to be placed on licensed electricity suppliers to supply a certain percentage of their total supply from renewable sources. A preliminary consultation was published in October 2000 containing proposals about how such an Obligation would be implemented in England & Wales. The response to that consultation document was very encouraging, with over 200 responses being received from a wide range of interests – from the electricity supply businesses, renewable energy generators, professional and environmental organisations and private individuals. We have carefully considered the issues raised in that consultation exercise, and this document lays out our response and our detailed proposals for the Renewables Obligation in England and Wales. A summary of the responses to the Preliminary Consultation has been published and is available from the DTI Publications orderline on 0870 150 2500 or on the internet at <http://www2.dti.gov.uk/renewable/pdf/response.pdf>
2. The Utilities Act requires us to consult with certain bodies, the statutory consultees, before the Order made. We would welcome comments on these detailed proposals from all interested parties, but particularly from consumers and the statutory consultees – the Gas and Electricity Markets Authority, the Gas and Electricity Consumer Council, electricity suppliers and the generators of electricity from renewable sources. **Your views are sought on the Obligation, particularly on the key changes made following the Preliminary Consultation, which are summarised in paragraph 5.**
3. Responses to this statutory consultation must be received by **[28th September 2001]**, ideally by email to RO.consultation@dti.gov.uk , or by post to:

Dr Marilyn Booth,
Department of Trade and Industry,
Room 1116, 1 Victoria Street,
London SW1H 0ET

Please include a name and postal address with any email responses. This document can also be found on the DTI website at <http://www2.dti.gov.uk/consultations/>

4. We will publish all the responses to this consultation that we receive, along with a summary, on the Internet in due course, so any responses not for publication must be marked 'Confidential'. In addition to written responses, we intend to hold a series of meetings with the key stakeholders during September. Invitations will be sent to previous respondents nearer the time and details will be published on the DTI website. Any enquiries about these meetings, or this consultation in general, should be directed to the email address above.

Summary of changes

5. The following changes have been made having taken into account responses to the Preliminary Consultation. The Preliminary Consultation document can be found on the DTI website at <http://www2.dti.gov.uk/renew/ropc.pdf>. For more details regarding the specific proposals, please consult the paragraphs indicated.
 - The Obligation is expected to come into force on 1st January 2002 (paragraph 18)
 - The forecasts for total electricity supply, and for the required contribution from the Obligation have been revised to take account of other changes to the Obligation (paragraphs 23 to 25)
 - Electricity generated from renewable sources outside of the United Kingdom will not be eligible for the Obligation (paragraph 26)
 - Electricity generated from the fossil-derived content of energy-from-waste will not be counted towards the overall renewable energy target and is not eligible towards the Obligation (paragraph 23)
 - Electricity generated from the non-fossil fraction of waste using advanced conversion technologies (such as pyrolysis, gasification and anaerobic digestion) will be eligible for the Obligation (paragraph 29)
 - Electricity generated from biomass (whether energy crops or waste in origin) will be eligible for the Obligation (paragraph 30)

- Electricity generated by stations operational prior to 1st January 1990 will not be eligible for the Obligation, unless re-equipped, with the exception of micro hydro stations (<1.25MW) and co-firing stations(paragraph 33).
- Electricity generated by hydroelectric stations with a capacity greater than 20MW will not be eligible for the Obligation unless they have been commissioned after the date the Order is made (paragraph 28)
- The use of up to 10% fossil fuel is allowed for specified purposes, but the energy derived from the fossil fuel will not be eligible for the Obligation (paragraph 34)
- Co-firing – using fossil fuels alongside biomass – is allowed until 31st March 2011 as a transitional step towards more environmentally benign use of fossil fuels, but may only fulfil up to 25% of a supplier's Obligation (paragraphs 36 & 37). After 31st March 2006, 75% of the energy from the biomass in a co-firing station must come from energy crops.
- The buyout price has been set at 3p/kWh for all eligible technologies, and will be adjusted each year, following the retail price index (paragraphs 45 & 46)
- Up to 25% of a supplier's Obligation may be met by ROCs awarded in the previous period (banking) but no borrowing – bringing forward ROCs from future periods – will be permitted (paragraphs 41 & 42)
- The proceeds of buying out will be returned to suppliers on the basis of the amount of eligible renewable electricity represented by the Renewables Obligation Certificates presented. (paragraph 47)

6. The principal eligible renewables can be summarised thus:

Source	Renewables target	Renewables Obligation
Landfill gas	✓	✓
Sewage gas	✓	✓
Energy from waste	Only the non-fossil derived energy will count towards the renewables targets	Only non-fossil derived energy from non-incineration will be eligible

		for the Obligation
Hydro exceeding 20MW declared net capacity	✓	Only new stations over 20MW
Hydro 20MW or less dnc	✓	✓
Onshore wind	✓	✓
Offshore wind	✓	✓
Biomass, e.g. agricultural and forestry residues	✓	✓
Tidal power	✓	✓
Wave power	✓	✓
Photovoltaics	✓	✓
Co-firing	Only the non-fossil derived energy will count towards the renewables targets	Eligible until 2011 for up to 25% of a supplier's Obligation 75% of biomass fuel to be energy crops from 2006
Energy crops	✓	✓

Renewable Energy

7. Renewable energy, at its most basic level, can be thought of as energy that occurs naturally and repeatedly in the environment. The basic definition of "renewable sources" in the Utilities Act 2000 is "sources of energy other than fossil fuel or nuclear fuel...". Such sources are continuously available, offering potential to help the UK achieve its aims in terms of sustainability of energy supplies. World-wide energy demand continues to increase (currently at a rate of 2% per annum), while the availability of fossil fuel is expected to decline in the longer term and concerns over the potential impact of global warming continue to grow. The sustainability of energy supply can therefore be expected to continue rising up the social, economic and political agenda in the years to come.

8. The most well known renewable energy sources are probably hydro, wind and solar power. However, as the above definition makes clear, Government targets for renewable energy can include energy generated from: *Biofuels* (e.g. all types

of biomass, including the biodegradable fraction of energy from waste, landfill gas, sewage gas, agricultural and forestry residues, and energy crops); onshore and offshore wind; Water (Hydro power, wave power and tidal energy); and Solar energy (both active and passive solar heating as well as Photovoltaics).

9. Renewables have a key role to play in the Government's wider Climate Change programme: these sources generally produce lower (or even negligible) levels of pollutants (e.g. greenhouse gases) than the conventional sources of energy they displace and thus also help the UK to meet its climate change targets. Projections indicate that the use of renewables within the UK could result in an annual saving of around 2.5 million tonnes of carbon emissions in 2010². The recent report by the Royal Commission on Environmental Protection³ also backs up this assumption, and confirms that greenhouse gas abatement will be a key future role for renewables, and that increasing the uptake of renewables has to be a non-negotiable element of future energy use.

Government policy on New & Renewable Energy

10. The Government wants to promote a climate of innovation and to develop the competitive potential of the renewables industry both at home and abroad. The Government's broad policy for new and renewable energy was published as *New & Renewable Energy: Prospects for the 21st Century: Conclusions in Response to the Public Consultation* in February 2000. That document set out a number of aims and targets for renewables based on a thorough review, assessment of the potential for renewables and extensive public consultation.

Policy Aims

11. Essentially, the Government's renewable energy policy has five key aims:

² Department of the Environment, Transport and the Regions. (2000). *Climate Change: Draft UK Programme*. London: DETR

³ Royal Commission on Environmental Protection (2000), *Energy – the changing climate*, London: RCEP <http://www.rcep.org.uk/newenergy.html>

- To assist the UK to meet national and international targets for the reduction of emissions including greenhouse gases;
- To help provide secure, diverse, sustainable and competitive energy supplies;
- To stimulate the development of new technologies necessary to provide the basis for continuing growth of the contribution from renewables into the longer term;
- To assist the UK renewables industry to become competitive in home and export markets and in doing so provide employment;
- To make a contribution to rural development.

Targets

12. The objective is to increase the contribution of electricity supplied in the UK from renewables to 5% of total available electricity by the end of 2003, rising to 10% in 2010, subject to the cost to the consumer being acceptable. The responses to the preliminary consultation in October 2000 suggested that the proposed costs were acceptable to achieve the environmental benefit. At the end of 1999, renewable energy sources represented 2.8% of total electricity generated in the United Kingdom (*Digest of United Kingdom Energy Statistics, 2000*)⁴. It is expected that the England & Wales share of the 5% target will primarily be met by existing capacity and new capacity to be built under Non Fossil-Fuel Obligation (NFFO) 3, 4 and 5 contracts. The new Obligation is expected to stimulate the growth that will be required to make the move from 5% to 10%. The Obligation will remain in force until 31st March 2027 and will provide a guaranteed market for electricity generated from renewable sources until that date.
13. It is estimated that between 36 – 39 TWh of renewable generation will be needed to meet the 10% target in 2010. This represents a substantial increase in the use of renewables - an extra 20 - 23 TWh in addition to that which is expected to be built under NFFO 3, 4 and 5. Renewable energy projects can take up to 6 years

⁴ Department of Trade and Industry, *Digest of United Kingdom Energy Statistics, 2000*. (2000). London: The Stationery Office

from inception through to commissioning. Consequently, it will be in the interests of suppliers and generators to be forward thinking and to recognise the long lead times of many of the renewable resources they will need to deploy.

Policy Instruments

14. In the past, the Government's principal renewables policy instrument has been the Non Fossil Fuel Obligation (NFFO) and analogous Scottish Renewable Obligation (SRO) and Northern Ireland Non Fossil Fuel Obligation (NI-NFFO) arrangements, which succeeded in creating an initial market for renewables. The Renewables Obligation moves away from the NFFO approach and reflects the Government's belief that the way forward is to create the market conditions for a thriving, dynamically competitive renewables industry. Its introduction means that there will be no further NFFO orders. Instead, all licensed electricity suppliers in England and Wales will be subject to the Renewables Obligation (RO), and in Scotland to the Renewables Obligation (Scotland), (ROS).
15. The new Obligation is one of a series of measures to promote the development of renewables. Other policy strands include:
 - Exemption of renewables electricity from the Climate Change Levy;
 - A supporting programme of research, development and technology transfer, with assistance to overcome non-technical barriers to deployment;
 - Development of regional strategies for renewable energy, with regional targets based on resource assessments, and a review of planning arrangements;
 - Capital grants for longer term technologies including offshore wind and energy crop projects;
 - A photovoltaic roofs market stimulation programme;
 - The Performance and Innovation Unit's study into resource productivity and renewable energy in the long-term (to 2050).

Each of these policy developments is discussed in detail at Annex C.

Timetable

16. Assuming prior State Aid approval, the Obligation will come into force on the first day of the month immediately following approval of the Order by Parliament, and the first period will last until 31st March 2003. Following the close of the Statutory Consultation on 28th September, the responses will be considered and any necessary amendments made to the draft Order. It is then hoped to lay the Order before Parliament in the autumn. The Order will require approval by both Houses of Parliament before coming into effect.

17. The Obligation is likely to be considered to be State Aid, and we are currently negotiating clearance from the European Commission. If State Aids approval is required, this may cause some delay to the introduction of the Obligation and/or changes to be made to it. The Obligation may require changes in due course in order to comply with the proposed European Directive on promotion of electricity from renewable energy sources that is currently being considered by the European Parliament. The Obligation will not be delayed by discussions on the proposed Directive, which would require later incorporation into UK legislation.

2. The Renewables Obligation

Implementation date

18. Due to the early dissolution of Parliament, it will not be possible to lay the Renewables Obligation Order before Parliament until the autumn session, which is expected to commence in October. We hope that the Order will be able to complete the Parliamentary process during November. It is intended that the Order will come into effect on 1st January 2002.
19. Obligation periods will be a year long, from 1st April to 31st March. The first period of the Obligation will run from 1st January 2002 until 31st March 2003.

The Government's commitments

20. The Government is committed to the Obligation in order to see investment in existing and new renewable energy generating capacity. In order to give the necessary confidence for investment, we want to assure the renewables industry that, once the Obligation is in place, the Government does not intend to:
 - Lower the buyout price during the time that the Obligation remains in force;
 - Reduce the size of the Obligation as long as it remains in force;
 - Curtail the duration of the Obligation.
21. It should be noted, however, that each Parliament remains sovereign and may repeal or amend legislation. The Obligation will be subject to any changes in UK law brought about to comply with European Union Directives, or any changes required to obtain or maintain State Aid clearance. A Directive on Renewable Energy is currently being considered by the European Parliament and is expected to be adopted later in the autumn. Whilst every effort has been made to ensure that the Obligation is compatible with the draft Directive, some areas may be subject to change, most notably the eligibility of energy-from-waste and large hydro.

Role of Ofgem

22. Ofgem will be responsible for:

- Accrediting generators who meet the requirements of eligible generation;
- Issuing ROCs;
- Assessing and policing the extent of compliance by suppliers;
- Calculating and announcing the annual buy out price following its adjustment in line with the retail prices index;
- Collecting the buyout payments due from suppliers;
- Distributing the proceeds of the buyout amongst compliant suppliers;
- Providing an annual report to the Secretary of State on compliance with the Obligation.

Ofgem will be publishing their draft procedures for the Obligation shortly.

Basis of calculating

23. The Obligation for each supplier is calculated by applying a percentage obligation to the defined base supply. The Government's renewable energy targets are based on the **total electricity available** in the UK, with 10% of total electricity available coming from renewable sources by 2010⁵. With the total electricity available in GB being forecast at 387.9 TWh by 2010, some 38.8TWh would come from renewable sources. This 38.8 TWh will include electricity from renewable sources that are not eligible for the Renewables Obligation, such as existing large hydro and some forms of energy-from-waste. We estimate that these non-eligible renewables will account for 5.2TWh by 2010, giving a total Obligation of 33.6TWh.

24. The Obligation will be based on **total electricity sales** to customers in England & Wales, and so does not include electricity consumed by autogenerators (those who generate their own electricity on-site) and electricity losses on the distribution network. If the total electricity sales in Great Britain in 2010 are

⁵ We propose that the electricity derived from the fossil fuel element of energy-from-waste (such as plastics etc) will not count towards the overall renewable energy targets, as was proposed in the Preliminary Consultation.

forecast at 324.3TWh, an Obligation rate of 10.4% will be required to give 33.6TWh of eligible renewable electricity. A common Obligation profile is proposed for both Scotland and England & Wales. The table below sets out the forecasts of electricity supply and the Obligation across Great Britain for the period up to 2010.

Period	Estimated sales by licensed suppliers	Estimated autogeneration consumption	Estimated losses	Estimated total electricity available (GB)	Renewables target (GB)	Renewables target (GB)	Non-eligible contribution	Contribution from Obligation	RO as % of sales (GB)
	TWh	TWh	TWh	TWh	%	TWh	TWh	TWh	%
1999/2000	301.8	21.3	27.7	350.8					
2000/2001	307.0	22.4	28.6	358.0			5.8		
2001/2002	310.9	23.8	28.7	363.4			5.6		
2002/2003	313.6	25.1	28.6	367.3	4.0	14.7	5.3	9.4	3.0
2003/2004	316.2	26.4	28.6	371.1	5.0	18.6	5.1	13.5	4.3
2004/2005	318.7	27.7	28.5	374.9	5.5	20.6	5.0	15.6	4.9
2005/2006	320.6	29.2	28.4	378.2	6.0	22.7	5.0	17.7	5.5
2006/2007	321.4	30.6	28.1	380.2	7.0	26.6	5.1	21.5	6.7
2007/2008	322.2	32.1	27.9	382.2	8.0	30.6	5.2	25.4	7.9
2008/2009	323.0	33.5	27.7	384.1	9.0	34.6	5.2	29.4	9.1
2009/2010	323.8	34.8	27.4	386.0	9.5	36.7	5.2	31.5	9.7
2010 & beyond	324.3	36.0	27.5	387.9	10.0	38.8	5.2	33.6	10.4

25. Whilst the above table shows the Obligation remaining constant at 10.4% of total electricity sales after 2010, it is likely that the Obligation will increase after 2010. The success of the Obligation in meeting the Government's renewable energy and carbon dioxide emissions targets will be reviewed throughout the lifetime of the Obligation in the light of the latest information on climate change. Future increases to the Obligation may be brought forward through an amendment to the Renewables Obligation Order but, as explained in paragraphs 20 and 21 above, there are no plans to reduce the size of the Obligation as long as it remains in force.

Electricity generated outside of the United Kingdom

26. In order to be eligible for the Obligation, electricity from an eligible renewable source must be generated in the UK and must be physically supplied to customers in Great Britain. Where electricity from an eligible renewable source is generated outside of the United Kingdom and supplied to customers in Great

Britain, that electricity will not be eligible for the Obligation. Electricity generated from eligible renewable sources in Northern Ireland will be eligible to discharge a supplier's Obligation in England & Wales once a physical link has been commissioned that enables electricity generated in Northern Ireland to be supplied to customers in Great Britain. Electricity generated subject to a qualifying arrangement under the Northern Ireland Non-Fossil Fuel Obligation (NI-NFFO) will not be eligible for the Obligation.

Eligible technologies

27. The Preliminary Consultation proposed that all sources of renewable energy would be eligible, with the exception of large hydro⁶ and energy-from-waste⁷ on the grounds that these sources are already commercially viable and well established in the market place.
28. The majority of responses to the Preliminary Consultation supported the exclusion of large hydro stations, which were constructed under public ownership. Concern was expressed by the industry over the age of current stations and the need to refurbish them. We propose that existing stations over 20MW would be excluded from the Obligation, but that any stations newly commissioned following the date of the Order coming into force would be eligible. We believe that these measures will encourage the refurbishment of existing stations and will support any future schemes, if planning permission can be secured.
29. Over 60% of respondents to the Preliminary Consultation commented on the question of energy-from-waste, with the majority opposing the proposed exclusion from the Obligation. One of the concerns expressed was that the development of more advanced and/or environmentally beneficial technologies would be inhibited. These technologies, including pyrolysis, gasification and anaerobic digestion, will play an important role in the future of electricity generation using energy crops. By and large, they require pre-separation of

⁶ Large hydro in this context refers to hydroelectric stations with a declared net capacity exceeding 10MW

⁷ Energy recovery from municipal solid waste (MSW) and from mixed streams of industrial and commercial waste (ICW).

recyclable material from the waste stream and are well suited for community-sized developments. We therefore propose to include these new technologies (which use thermal or biological processes to convert the waste into a fuel oil or gas, which is then burnt) within the Obligation. Mixed waste may be used as the feedstock for such stations but only the output attributable to non-fossil derived material would be eligible.

30. A second concern was expressed regarding the distinction between some forms of waste and biomass. Sawdust, for example, could be considered under certain circumstances as biomass, a forestry residue, and under other circumstances as an industrial waste, say from a furniture factory. In order to eliminate such anomalies we propose that all energy derived from purely non-fossil derived material⁸ – whether waste or biomass – would be eligible for the Obligation, regardless of the energy conversion technology used (including incineration).

31. Under these revised proposals, the incineration of household waste would still not be eligible for the Obligation. Whilst arguments have been made for the eligibility of incineration of unseparated waste, we do not believe that the Government should encourage waste incineration through the Renewables Obligation. This approach is consistent with the Government's support for waste reduction, recycling and reuse as described in the Government's Waste Strategy 2000, whilst supporting the development of more efficient and environmentally benign energy conversion from biomass.

32. The table below illustrates the proposed eligibility of energy-from-waste:

	Mixed wastes	Waste purely non-fossil derived	Biomass
Incineration	Ineligible	Eligible ⁸	Eligible
Pyrolysis, gasification, anaerobic digestion etc	Only non-fossil derived energy eligible	Eligible ⁸	Eligible

⁸ Subject to a 2% fossil-derived content de minimis to allow for accidental contamination. If the output from fossil-derived content exceeded 2% in any one year, none of the electricity from that station would be eligible for the Obligation in that year.

Eligible stations

33. We are concerned that consumers may have to bear additional 'deadweight' costs from stations that are fully depreciated – that is, all the capital costs have been repaid over some time. We want to ensure that such stations do not inhibit the development of new renewable generation capacity. We therefore propose to exclude stations built or re-equipped before 1st January 1990 from the Obligation, with the exception of co-fired stations described in paragraph 36. This would mean that some stations built under NFFO 1 & 2 contracts would still be eligible for the Obligation. Micro hydro stations, with a declared net capacity of 1.25MW or less, will be eligible for the Obligation, regardless of their date of first operation.
34. We are aware that some generating stations require small amounts of fossil fuel use for the purposes of igniting gases of low or variable calorific value, heating the combustion system to its normal operating temperature and maintaining that temperature, or for emissions control. Such use is permitted provided that the energy content of the fossil fuel does not exceed 10% of the energy content of the renewable fuel used in any one year. Only the non-fossil derived output will attract ROCs.
35. Where a station uses fossil fuel for other than these purposes, or where the 10% fossil fuel limit is exceeded, then the station will be considered to be co-fired, as described below, and subject to the restrictions on such stations.
36. We recognise that stations that are powered by both a fossil-derived fuel and biomass (known as co-firing) may have an important role to play in helping to develop energy crops, and in delivering renewable energy capacity quickly at relatively low cost. In a co-fired station, biomass would displace some of the fossil fuel feedstock, but there is a concern that overall carbon dioxide emissions could increase if the eligibility of co-firing for the Obligation altered the current balance of fossil fuels used in electricity generation. We therefore propose that the output from co-fired stations can only be used to fulfil up to 25% of an individual supplier's Obligation. In order to ensure that the energy crops supply chain is established, the biomass used in co-firing must comprise of at least 75% energy crops from 1st April 2006.

37. We believe that co-firing is a transitional step towards cleaner coal technologies and other more environmentally benign forms of fossil-derived power. In order to develop an early market for energy crops, we propose that a co-fired station would be eligible for the Obligation until 31st March 2011. For example, a coal-fired power station built prior to 1st January 1990 that also used wood pellets would be eligible for the Obligation on the renewable element of the output, but only until 31st March 2006 after which the biomass must be at least 75% energy crops.

38. As outlined above in paragraph 26, stations located outside of the United Kingdom would not be considered eligible for the Obligation.

Awarding of ROCs

39. Renewables Obligation Certificates (ROCs) will be issued as evidence that electricity from an eligible renewable source has been supplied to customers in Great Britain. In order for ROCs to be issued, the generating station that generated the electricity must be accredited by Ofgem to ensure that the electricity generated meets the eligibility criteria for the Obligation. A declaration must also be received that the electricity generated has been sold on the basis that it has been supplied to customers in Great Britain. A supplier may discharge the Obligation by buying ROCs from generators or third-party traders.

40. ROCs will be issued in multiples of 1MWh and will be passed to the operator of the generating station. Each certificate will have a unique number and will detail the generating station and the period in which the electricity was generated.

Banking & Borrowing

41. The Preliminary Consultation outlined proposals for banking up to 50% of a supplier's Obligation. The majority of comments received expressed the view that the 50% limit was too high, and could encourage market manipulation. Some suggested that a 10% limit would be more appropriate, but we believe that a 10% limit would be too restrictive, particularly given no borrowing. We therefore propose that up to 25% of a supplier's Obligation can be met by ROCs issued in the previous period.

42. Opinion on borrowing was more divided, with some expressing a concern that allowing borrowing would, in effect, reduce the overall size of the Obligation by

the amount of borrowing allowed. Borrowing could encourage speculation and manipulation of the ROC market place. Suppliers would have other forms of fulfilling the Obligation – through buying ROCs from generators or third-party traders, or by paying the buyout price. We do not believe that an additional way of complying is required and we therefore propose not to allow any borrowing.

Presenting of ROCs

43. Before the specified day for each Obligation period, which will be 1st October following the period, suppliers must present their evidence that they have fulfilled their Obligation to Ofgem. That evidence will take the form of ROCs and/or evidence of payment of the buy out.

Buying out

44. Suppliers may buy out part or all of the Obligation and the buyout payment must be made before the specified day. If a supplier fails to present evidence of fulfilling the Obligation, either through ROCs or through paying the buy out, by the specified day, they will be considered in breach of a 'relevant requirement' within the meaning of section 25 of the Electricity Act 1989. Ofgem will thereafter decide whether to impose a financial penalty, subject to their current Statement of Policy with respect to Financial Penalties, and will follow the current process for dealing with financial penalties.
45. The buyout price for the first period, from the introduction of the order until 31st March 2003, will be 3p/kWh. Thereafter, the price will be adjusted on an annual basis in line with changes in the retail price index, and Ofgem will announce the revised price. The buyout price, in effect, sets a cap on the maximum cost to the consumer at 3p/kWh, over and above the base cost of electricity.
46. In the Preliminary Consultation, we sought views on whether the Obligation should be banded, setting different buy out prices for different sources of renewable energy. There was no clear consensus in the responses we received. We believe that such banding of the Obligation would be too rigid an approach for a long-term policy such as the Obligation, and would require the Government to dictate the contribution of each energy source towards the Obligation. This approach would be contrary to the market-led basis of the Obligation. It would

remove the essential ingredient of competition between renewable energy technologies, and we therefore do not propose to band the Obligation.

Recycling of buyout

47. The proceeds of buying out will be recycled back to suppliers who have complied with the Obligation, on the basis of recycling in proportion to the amount of eligible electricity supplied represented by the ROCs presented by each supplier, compared to the total amount of eligible electricity supplied. If the total amount of eligible electricity supplied in a period is equivalent to 25TWh, a supplier who presents ROCs relating to 2.5TWh would receive 10% ($2.5\text{TWh} \div 25\text{TWh}$) of the total buyout funds received in that period. If a supplier chooses to buy out part or all of the Obligation, it will not receive any recycling of the buyout funds for the proportion that it has bought out.

State Aid Clearance

48. The Renewables Obligation is likely to be considered State Aid by the European Commission and may require clearance of the scheme, especially the buyout recycling mechanism, before implementation.

Annex A: The Renewables Obligation draft order

Annex B: Regulatory Impact Assessment

Annex C: Other Policy Instruments

Capital Grants

49. The Government's 10% target for electricity from renewables is expected to require a significant increase in the power generated from offshore wind and energy crops. In order to bring forward this increase Government has announced that capital grants totalling £89 million will be made available from the Department of Trade and Industry and the New Opportunities Fund. This support will offset a proportion of the investment costs of an early tranche of projects and will provide experience of commercial deployment and operation. The capital grants are also expected to underpin the development of the industry and supply chains. *Further funding towards offshore wind and biomass projects may also be available following the Performance and Innovation Unit's Report, which will allocate the further funding announced in March 2001 by the Prime Minister of £100 million. (Section x.x)]*
50. There will be separate capital grants schemes for offshore wind and energy crops. This is to recognise the different nature of projects that will come forward from these two resources e.g. projects generating electricity from energy crops will require inputs from differing fuels sources over time.
51. The £89 million funding also includes £3 million to be allocated by the New Opportunities Fund for small-scale biomass heat, and combined heat and power (CHP), projects. This funding is expected to significantly increase the penetration of the non-domestic heat market by biomass.

Offshore Wind

52. DTI are expecting to formally launch the £39 million capital grants scheme for offshore wind in July. State Aid clearance is currently being sought for the scheme. The Department has consulted extensively with the offshore wind industry on the design of the scheme, of which the key objective is to stimulate the early deployment of offshore wind farms in UK waters.
53. Sites should be sited within UK territorial waters and developer will also need to have secured all necessary consents for the proposed site before submitting a grant proposal.

54. The maximum grant available for each wind project is expected to be a maximum of 40% of eligible project costs. The total grant should also not exceed £10 million.

The New Opportunities Fund

55. In April 2001, the Fund received policy directions from Government to deliver a number of major new grant programmes, including further funding for the environment. A strand of the new 'Transforming Communities' environment programme represents investment of £50 million for renewable energy. Of the funding available, at least £33 million should be committed to developing renewable electricity generation by building generating capacity for electricity from energy crops, at least £10 million should be committed to building offshore wind electricity generation projects and at least £3 million to small-scale biomass heat, and combined heat and power, projects.
56. Policy directions require that the Fund commit funding by 2005. The Fund plans to consult with key stakeholders during the summer to develop UK-wide schemes intending where possible to complement existing activities and strategies to ensure that funding makes an early contribution towards UK targets for renewable energy.

Renewables Fund/PIU study

57. On 6th March 2001, the Prime Minister announced an additional £100 million to support the development of renewables. He said:

"Last year I asked the Performance and Innovation Unit to undertake a major study into the future of UK renewable energy. Today I can announce a further £100 million to support those technologies identified by the report. I know that a number of green groups have been campaigning for a target of 100,000 solar PV installations. This new money will help us to promote solar PV, give a boost to offshore wind, kick start energy crops, and bring on stream other new generation technologies. This investment in renewable technology is a major down-payment in our future, and will help open up huge commercial opportunities for Britain."

58. The allocation of the Renewables Fund will be informed by the Performance and Innovation Unit's report into renewable energy, which is focusing on the long-term

prospects of renewable energy in the period leading up to 2050. In deciding the allocation of the Fund, the objective is to provide renewable generation at least-cost in the long term. The potential benefit to consumers from renewables support in this way is primarily from the reduction in the future cost of achieving climate change targets. It is expected that cost reductions would be derived from the process of learning-by-doing. The PIU report will be published later this year, and will consider both the likely contribution from different renewable energy technologies and the potential for cost-reductions through learning-by-doing.

Climate Change Levy exemptions

59. The Climate Change Levy introduced by the Government under the provisions of the Finance Act 2000 commenced on 1 April 2001. The Levy is charged at the rate of 0.43p/kWh on electricity supplied to non-domestic customers in the United Kingdom. Electricity from qualifying renewable sources is exempt from the Levy. Ofgem is responsible for monitoring the exemption claimed in Great Britain; Ofgem has a similar role in respect of electricity supplied in Northern Ireland.

60. Monitoring the exemption involves:

- accrediting generators;
- issuing Levy Exemption Certificates (LECs) in respect of output from accredited generators;
- reporting to Her Majesty's Customs & Excise on the LECs confirmed to suppliers.

61. In January 2001 Ofgem issued an accreditation pack for generators who wished to apply for the output from their stations to qualify for the exemption. The information provided by the applicants enabled Ofgem to establish whether the station met the definition of a qualifying renewable source. The qualifying definition is set out in the Climate Change Levy (General) Regulations 2001 (S.I. 2001 No. 838). 408 generators in Great Britain have been accredited up to 10th May 2001 with a total installed capacity of over 1262 MW (not all the installed capacity is qualifying output).

Accredited stations

Technology	Number of stations	Installed Capacity
------------	--------------------	--------------------

	accredited	MW
Agricultural waste / energy crops	6	123.5
Energy from waste (incineration)	12	222.3
Hydro	126	158.1
Landfill gas	171	389.1
Off-shore wind	2	3.8
On-shore wind	56	320.6
Sewage gas	35	44.8
Total	408	1262.2

62. Once accredited a generator is issued with a unique accreditation number, which identifies the technology type / fuel source and the location of the generator e.g. England, Scotland etc.
63. On receipt of the monthly output information, Ofgem issues the LECs to the generator (in the case of non-NFFO generators) or the supplier (in the case of NFFO generators). One LEC is issued for each qualifying MWh produced. Each LEC has a unique serial number which indicates the generator's accreditation number and the month and year in which the output was generated. The LECs have to be traded with the electricity and cannot be sold separately. Following the issue of the LECs, suppliers are required to notify Ofgem of the quantity and serial numbers of the certificates purchased from generators. Ofgem then validates this information using the details it holds of the LECs issued and provides confirmation to the suppliers.

Research & Development

64. The Renewables & Sustainable Energy research & development programme is one element of the Government's policy of stimulating the development of renewable energy so that it can provide a continuously growing contribution in the competitive energy market. The Government has recently increased the budget for its expenditure on the research & development programme, as shown:

Year	Budget (£ million)
2000/2001	14.0

2001/2002	18.0
2002/2003	18.0

65. The Renewables & Sustainable Energy R&D Programme currently supports research & development projects in the following areas:

- Biofuels
- Fuel cells
- Solar energy
- Wind energy
- Water (small-scale hydro & wave energy)
- Tidal stream
- Embedded generation.

66. The priorities for projects have been developed from the draft long term strategies (Technology Route Maps) that are presently being developed by the DTI in consultation with industry, academia and other key stakeholders. Proposals for research & development outside the scope will still be considered, but priority will be given to proposals that are within the scope and hence are expected to make a significant contribution to the key technology targets that are emerging from the Technology Route Mapping exercise.

67. Projects can include industrial research or pre-competitive development activity, which can include initial demonstration projects or pilot plants. The programme does not support the cost of commercial projects, nor of design/feasibility studies for commercial projects. The principal requirement for all proposals is that they should include innovation that offers the prospect for reduced cost and/or improved performance of new and renewable energy, with the goal of improving its competitiveness, and the competitiveness of UK industry. We expect proposals to clearly make the case that the innovation is worth pursuing and that the particular project is the logical next step in the development.

68. Further details on the Technology Route Maps can be found on the DTI website at www.dti.gsi.gov.uk/renewable/renew.htm and details on R&D grants at www2.dti.gsi.gov.uk/renewable/call.htm.

Annex D: Other issues raised in responses to the Preliminary Consultation

Green tariffs

69. Green tariffs, where supply companies match subscribers' energy use with electricity generated from renewable sources, have had modest success, with over 20,000 consumers signing up. Green tariffs should not be used to meet a supplier's costs in fulfilling their Obligation. The intention is that any green tariff should lead to additional generation, over and above a supplier's Obligation. We believe that green tariffs have an important role in promoting and raising awareness of renewables but it is unclear whether green tariffs will continue after the introduction of the Obligation. We will be discussing the future for such voluntary support for renewables with the industry.

Embedded generation

70. The responses to the preliminary consultation expressed concern that there is little encouragement for embedded generation. An embedded generation working group was established to investigate how embedded generation could be supported and a further group is being established to monitor implementation of its recommendations.

NETA

71. Considerable concern has been expressed over the impact of the New Electricity Trading Arrangements (NETA) on small generators, particularly intermittent forms of generation such as wind farms. A review of NETA and the impact on such generators is currently being conducted by Ofgem and any further measures will depend on the outcome of that review.

Planning

72. The Government recognises that the planning system has an important role to play if renewable energy targets are to be met. The Government wants to promote a positive and strategic approach to planning, and to create an

atmosphere conducive to open and constructive dialogue among operators, the planning authorities and local people so that suitable sites can be identified with sensitivity and care.

73. In order to promote this strategic approach from the regional level downwards, the Government in February 2000 initiated work to prepare regional assessments and targets for renewable energy provision based upon - and, where necessary, updating - existing resource studies.
74. The majority of these regional assessments are now complete, with the remainder expected to be complete by September of this year. The Department is looking to carry out a review of the completed regional assessment in terms of the consistency of approach, including assumptions made in development of regional targets, and to gauge how the total proposed regional contributions match up to the 2010 UK target.
75. The results of these assessments should be incorporated following consultation with interested stakeholders into Regional Sustainable Development Frameworks, which will elaborate a regional approach to renewable energy, including regional targets which flow from the assessments of each region's capacity to generate electricity from a range of different sources.
76. The frameworks will work alongside Regional Planning Guidance (RPG) and Regional Development Agencies' Economic Strategies in promoting sustainable development. Thus we envisage RPG taking forward in land-use terms a region's strategy for delivering renewable energy targets by defining broad locations for renewable energy development and setting criteria to help local authorities select suitable sites in their plans. We would encourage regional planning bodies to set targets in RPG, where sensible to do so, for the structure plan and unitary development plan areas within the region consistent with the regional targets provided by the regional sustainable development frameworks.
77. Together with the national planning policy guidance in PPG 22: Renewable Energy, RPG - as taken forward through structure plans and Part I unitary development plans - will provide a strategic framework for policies and proposals for renewable energy development in local plans, including the identification in those plans of suitable sites. This, in turn, will feed through to decisions on individual planning applications.

78. More positive planning at regional and local levels will contribute to greater public familiarity with, and acceptance of, prospective renewable energy developments. It remains important, however, for operators to prepare the ground with local authorities, environmental organisations and local people before formal planning applications are submitted and to develop proposals in consultation with them

Offshore Wind

79. The Department has recently held a consultation exercise on the consents process for offshore windfarms. This proposes that instead of the current fragmented situation the DTI act as a "one stop shop", receiving and co-ordinating the administration of proposals for offshore windfarms in England and Wales. It also proposes that DTI become, in effect, the planning authority for the smaller offshore windfarms i.e. those at or below 50 MW since the local planning regime does not extend offshore. Responses were sought by the DTI by 23 April and the Department will be looking to announce the outcome of the consultation exercise shortly.

Draft Regulatory Impact Assessment for the Renewables Obligation

1. This is the second draft of the Regulatory Impact Assessment (RIA) of the Renewables Obligation Order 2001.
2. The purpose of this RIA is to assess the impact of the Renewables Obligation. The Obligation has been appraised for its potential impact on the environment, particular groups of society and business. Relevant cost and benefit information has been included where appropriate. The environmental benefits have been estimated and quantified in terms of carbon savings.
3. This assessment follows a Preliminary Consultation exercise conducted in October 2000 and reflects the responses received. A summary of the consultation document is available from <http://www2.dti.gov.uk/renew/ropc.pdf> and a summary of responses received has also available from <http://www2.dti.gov.uk/renewable/pdf/response.pdf>.

Purpose and Intended Effect of the Measure

Issue

4. Climate change is considered to be one of the greatest environmental threats facing the world. Scientists estimate that the world's climate could warm by about 3°C over the next 100 years if no action is taken to reduce the greenhouse gas emissions that cause climate change. This rate of warming is greater than any since the last Ice Age, 10,000 years ago. Climate change is likely to have far reaching effects on all aspects of the world's environment, economy, society and health. In the UK, temperatures could rise by a further 3°C by 2100; rainfall could increase by as much as 10% over England and Wales and 20% over Scotland by the 2080s and changes to the seasons are expected. Higher temperatures in the UK might also exacerbate the effects of air pollutants, particularly in the summer months.

5. In response to the threat of climate change, developed countries agreed at Kyoto in December 1997 to legally binding targets which will reduce their emissions of the six main greenhouse gases by 5.2% below 1990 levels over the period 2008-2012. The European Union and its member states agreed to an 8% reduction. In June 1998, member states agreed to share out the EU's target and the UK agreed to cut its emissions by 12.5%. The Government also has a more challenging domestic goal of a 20% reduction in carbon dioxide emissions below 1990 levels by 2010. The devolved administrations have also adopted this goal.
6. Kyoto was only the start of a longer-term process. The Intergovernmental Panel on Climate Change has confirmed that it will be necessary to stabilise greenhouse gas emissions if damaging climate change is to be avoided. Further cuts in emissions will be needed and the challenges of meeting future targets can not be overstated.

Objective

7. The draft UK Climate Change Programme proposes a package of policies and measures that will deliver the UK's legally binding target from Kyoto to cut greenhouse gas emissions and move towards its domestic goal. Stimulating new, more efficient and lower carbon sources of power generation is an important part of the package. The main means of stimulating an increase in the proportion of electricity supplied from renewable energy sources will be the obligation on electricity suppliers to procure sufficient supplies from such sources, consistent with a total supply of renewables of 10% by 2010, subject to the cost to consumers being acceptable.

The programme will act as the framework for a long term, comprehensive strategy on climate change for the UK as a whole. It also looks beyond the Kyoto commitment period of 2008 - 2012 and uses the domestic goal as the spur for further action to cut emissions that will see the UK onto a more sustainable path by encouraging a move to a lower carbon economy. Moving towards the domestic goal will also enable the UK to ensure that it will be better placed to meet future, more difficult, targets. It will send a strong signal to the international community that the UK is leading by example; and it will help safeguard the competitiveness of UK firms by encouraging a more energy efficient industry and by stimulating the development of new environmentally-friendly technologies.

8. The purpose of the Renewables Obligation within this programme is to specifically encourage the uptake of renewable power generation sources by the electricity supply industry by developing the market for electricity from renewable sources, and to reduce emissions of greenhouse gases from the sector.

Risk Assessment

9. The full implications of allowing climate change to happen at its current rate are not fully known but scientists believe that the net effect will be detrimental. Initial work by the UK's Hadley Centre has indicated that globally:
 - ◆ Sea levels are expected to rise by over 40 centimetres by the 2080s causing sweeping changes to coastal communities and environments and the dislocation of millions of people;
 - ◆ By the 2070s, large parts of Northern Brazil and central southern Africa could lose their tropical forests;
 - ◆ Climate change could affect global food supplies. Africa is expected to experience significant reductions in cereal yields, as are the Middle East and India;
 - ◆ An additional three billion people could suffer increased water shortage. Northern Africa, the Middle East and the Indian subcontinent will be the worst affected; and
 - ◆ Climate change could expose an additional 290 million people to the risk of malaria - with China and Central Asia likely to see the largest increase in exposure.

10. The potential effects of climate change in the UK were assessed in 1996. The review concluded that, although some sectors could benefit from climate change, for example forestry, some forms of agriculture and tourism, climate change would:
 - ◆ Adversely effect UK's water resources and cause more flooding and property damage, affecting not only people but sectors like the insurance industry;
 - ◆ Harm people's health through the spread of disease;
 - ◆ Cause soils - the foundation of natural habitats, agriculture and the built environment to suffer more drought, erosion and clay shrinkage;

- ◆ Cause a northward shift in farming zones and wildlife (including pests and diseases), which could result in new species coming over from the continent as well as the loss of familiar landscapes; and
- ◆ Cause sea levels to rise, which will increase the risk of coastal flooding and erosion, with economic impacts on property in those areas and damage to natural habitats.

11. The implications of the UK failing to meet its Kyoto target are not yet known. Discussions about compliance with the Kyoto Protocol are continuing internationally and the European Union is still discussing the implications of Member States failing to meet their respective share of the target sharing arrangement (see paragraph 5). One of the Government's reasons for moving towards the UK's domestic goal is to allow some headroom to ensure that the Kyoto target is met.

12. The UK's greenhouse gas emissions are currently forecast to begin increasing again after 2005. As stated above, another of the Government's reasons for moving towards the domestic goal is to ensure that the UK is better placed in the longer term to meet future international targets. Taking a long-term perspective at this stage will ensure that change can be introduced gradually, thereby minimising the cost of transition.

Options

Identifying the Options

13. The evidence above clearly demonstrates that action is needed if the global community is to avoid the serious effects of climate change. The Government believes that taking no action is not an option and consequently in 1997 a review of the status and prospects of renewables was carried out. This included an examination of what would be necessary and practicable to achieve 10 per cent of UK electricity requirements from renewables by 2010 and what contribution

renewables could make to reducing greenhouse gas emissions. In March 1999 the Government published a consultation paper⁹ reporting the outcome of the review and possible ways forward in implementing the Government's new drive for renewables.

14. Following the public consultation DTI published an analysis of the responses to the consultation paper¹⁰ in July 1999 and then in February 2000 a conclusions paper¹¹. The Conclusions paper summarised the aims of Government Policy on renewables, these are:

- ◆ Assisting the UK to meet national and international targets for the reduction of emissions including greenhouse gases;
- ◆ Helping to provide secure, diverse, sustainable and competitive energy supplies;
- ◆ Stimulating the development of new technologies necessary to provide the basis for continuing growth of the contribution from renewables in the longer term;
- ◆ Assisting the UK renewables industry to become competitive in home and export markets and in doing so provide employment in a rapidly expanding sector;
- ◆ Contributing to rural development.

15. The Government proposed an initial 10-year strategy in collaboration with industry to meet its aims. The Government proposed to establish a sequence of targets in the electricity sector to act as a stimulus to industry and to provide milestones against which progress can be monitored.

16. The Government proposed that 5% of UK electricity requirements should be met from renewables by the end of 2003 and 10% by 2010, subject to the cost to the consumer being acceptable. A 10% target for renewables electricity would be

⁹ Department of Trade and Industry. (1999). *New and Renewable Energy – Prospects for the 21st Century*. London: DTI

¹⁰ Department of Trade and Industry. (1999) *New and Renewable Energy – Prospects for the 21st Century – Analysis of the Responses to the Consultation Paper*. London: DTI.

equivalent to around an additional 2.5 million tonnes pa of carbon saving for the UK climate change commitments.

17. The key component in achieving these targets is the Renewables Obligation to provide a growing market in which the industry can invest with confidence.

Issues of Equity or Fairness

18. The Government believes that all sectors must play their part in contributing to improving energy efficiency and reducing emissions of greenhouse gases to contribute to meeting our climate change target. Accordingly, the draft UK Climate Change Programme sets out a package of policies and measures for all sectors in the economy.
19. The Power Sector accounts for about 26% per cent of the UK's emissions of carbon dioxide¹². The Sector has a special role to play as the principal source of carbon dioxide emissions in industry.
20. The Renewables Obligation, along with a new target to double the capacity of combined heat and power by 2010, will be the main components of the UK Climate Change Programme specifically designed to assist the power sector to achieve significant greenhouse gas reductions.

Benefits

Identifying the Benefits

21. The draft UK Climate Change Programme will help ensure that the UK meets its legally binding Kyoto target to cut greenhouse gas emissions by 12.5% below 1990 levels by 2008-2012 and move towards the domestic goal of a cut in carbon dioxide by 20% below 1990 levels by 2010.
22. The Renewables Obligation will help to achieve these targets for greenhouse gas emissions reductions. The Obligation will form part of a package of measures

¹¹ Department of Trade and Industry. (2000). *New & Renewable Energy: Prospects for the 21st Century: Conclusions in Response to the Public Consultation*. London: DTI.

alongside other existing regulations, voluntary arrangements and incentives, as well as any future initiatives designed to achieve the reductions required.

23. As well as these environmental benefits the Government believes that the Renewables Obligation will stimulate investment in renewable technologies and assist these industries to compete on the world stage in what will become a significant global industry. For example, estimates based on World Energy Council projections¹³ indicate that cumulative investment in renewables could range from £150 billion to £400 billion between 2000 and 2010. Similarly, Shell suggests that renewables will meet 40% of world energy needs by the middle of the century.

Quantifying and valuing the benefits

Overall Cost to Consumers:

24. Estimates of the overall cost to consumers are shown in the following table, both in absolute terms and as a percentage of average electricity prices compared to actual 1999 levels in real terms. . The table assumes that the 10% target is equivalent to a supply of 38.8 TWh of renewables in 2010/11 (Based on an estimate of total electricity consumption plus losses of 387.9 TWh in Great Britain).
25. The table also assumes that receipts from suppliers are recycled in relation to the amount of compliance with the Obligation and that this does not increase the maximum potential cost to the consumer. Let us assume that the Obligation is set at 33.6 TWh, that the total renewable generation is 30 TWh and that all Renewable Obligation Certificates are traded ex-post. Buy-out payments then total £108 million (3.6 TWh multiplied by 3p/kWh) and the share of buy-out payments is therefore 0.36 p/kWh (£108 million divided by 30 TWh). Renewable Obligation Certificate prices would therefore settle at 3.36p/kWh - the price of the

¹² 'UK Energy in Brief', November 2000, pp27.

¹³ Department of Trade and Industry. (1999). *New & Renewable Energy Prospects for the 21st Century*. London: DTI

avoided buy-out plus the share of total buy-out payments. In aggregate, suppliers would pay generators £1008 million for the Renewable Obligation Certificates and would have no net position on buy-out. The costs to consumers would therefore be in line with the theoretical maximum of £1008 million (33.6 TWh multiplied by 3 p/kWh).

Table D: Cost of Renewables Obligation to Consumers in 2010/11

Renewables Target	38.8TWh
Contribution from non-eligible renewables:	5.2TWh
<i>Existing Hydro exceeding 20 MW installed capacity</i>	<i>3.5 TWh</i>
<i>Ineligible new and existing Energy from Waste</i>	<i>1.7 TWh</i>
Contribution required from eligible renewables	33.6 TWh
Maximum cost for buy-outs (38.8TWh x 3p/kWh)	£1,008 million
Reduction in the cost of the Fossil Fuel Levies * compared to costs without the Obligation	-£229 million
Total extra support for Renewables	£779 million
Percentage impact on average electricity prices compared to 1999 actual levels	4.4% %

* In England and Wales and in Scotland

26. It is anticipated that licensed electricity suppliers will increase their prices in order to meet the additional costs of complying with the Obligation. If unlicensed suppliers also increase their prices to match those of the licensed suppliers, an additional indirect cost of £93 million would be incurred. This would bring the overall cost of the Obligation for both direct and indirect costs to £872 million, which represents an increase of 4.4% in real terms over actual 1999 prices. This estimate takes account of the increase in electricity sales between 1999 and

2010/11 which will enable the costs of the Obligation, as estimated above in terms of £ million, to be spread over a greater volume of total electricity sales than in 1999.

Compliance Costs for Business

Business Sectors Affected

27. The following types of firms will be affected:

- ◆ Licensed electricity supply companies;
- ◆ Generators of renewable energy
- ◆ Potential traders in Renewable Obligation Certificates

30. The Government estimates that there will be less than 100 businesses that will be required to comply with the Renewables Obligation. Many of these businesses are large companies.

Compliance Costs for a "Typical" Electricity Supply Business

31. The compliance costs of the Renewables Obligation fall into two categories:

- ◆ Initial start-up costs;
- ◆ Recurrent costs of complying with the obligation.

Initial start-up costs for businesses are likely to include:

- ◆ Time spent in planning and preparing for the new Renewables Obligation;
- ◆ Changes to existing administrative and computer accounting systems;
- ◆ Training of staff;
- ◆ Legal costs in drawing up generator-supplier contracts;
- ◆ Any consequential printing and stationery costs.

32. Recurrent costs would include:

- ◆ Providing the evidence as required by Ofgem
- ◆ Maintaining records and accounting systems to enable the RO to be complied with
- ◆ Purchasing Renewable Obligation Certificates (ROCs) and providing these to Ofgem

Consultation with Small Business: "The Litmus Test"

33. The preliminary consultation on the Renewables Obligation was conducted in the autumn of 2000. No specific concerns were expressed by small businesses but it is believed that the Obligation may affect small businesses in two ways:

- *Where small businesses are large consumers of electricity.* Since the cost of the Obligation is based on p/kWh, it is likely that the increased costs to suppliers in meeting the Obligation will be passed on to consumers on a similar basis. Since large consumers currently enjoy lower average electricity unit prices than other consumers, the impact of the Obligation as a percentage of electricity prices will be greater for large consumers than others. Some small businesses may be very energy-intensive, such as certain manufacturing firms, but the higher increase in costs because of the Obligation is not believed to affect many small businesses.
- *Where small businesses are involved in the design, development and deployment of renewable generation.* Many of the firms involved in the renewable energy sector are small businesses. It is believed that the Obligation will significantly increase the size and security of the renewables generation market, and support the development of the industries that supply it.

Other Costs

Distributional Effects; Number and Type of Losers; Average Loss; Gainers

34. It is not possible to define the exact net effect of the introduction of the Renewables Obligation will be on individual industries or sectors. The net effect depends on:

- ◆ The future energy consumption of firms in the sector;
- ◆ The way in which licensed suppliers choose to pass on the cost of complying with the Renewables Obligation

Gender Impact

35. None envisaged.

Environmental Impact

36. The Renewables Obligation is expected to save around 2.5 million tonnes of carbon a year by 2010. These savings will make an important contribution towards meeting the UK's climate change targets. Given the overall cost of the Obligation of up to £779 million in 2010/11, this represents a cost of £312 /tC saved.

Effect on Work Incentives

37. It is expected that the Renewables Obligation, by stimulating investment in new environmentally beneficial technologies, will have a favourable impact on employment. As stated in paragraph 24, the worldwide market for renewables

has the potential to grow significantly. Previous estimates¹⁴ have suggested that working towards the 10% target, combined with efforts to improve export capability, could result in an additional 10,000 – 45,000 jobs in the UK renewables sector. These figures must be treated with caution, however, given the dearth of rigorous research in this area.

Impact on Retail Price Index (RPI)

38. The Obligation is expected to increase electricity prices by around 4.4 % in 2010, with the impact on the RPI expected to be less than 0.1%.

Results of Consultations

39. A preliminary consultation on the Renewables Obligation was held in the autumn of 2000, with over 200 responses being received from a wide cross-section of parties including electricity suppliers, renewable electricity generators and non-governmental organisations. The Government's response to the comments received is contained in the statutory consultation of which this assessment is an annex. The main issues raised in the Preliminary Consultation responses were:

- The Obligation should apply to all licensed electricity suppliers;
- Large-scale hydro should be excluded from the Obligation, as proposed;
- Energy-from-waste should be included in the Obligation;
- The profile of the Obligation should extend beyond 2010;
- The level of banking should be reduced and opinion on borrowing was divided;
- ROCs should be used as a means of demonstrating compliance;
- Buyout payments should be returned to suppliers but there were concerns over the mechanism;

¹⁴ Department of Trade and Industry. (1999). *New & Renewable Energy: Prospects for the 21st Century*. London: DTI.

- The costs were overall acceptable and expected to be less than suggested;
- There was no clear consensus on banding of the Obligation.

Summary and Recommendations

40. Although additional costs are likely to be incurred by the power sector, business and the public as a result of the introduction of the Renewables Obligation, the Government believes that the economic, environmental, social and health benefits to be gained significantly outweigh these costs.

Enforcement, Sanctions, Monitoring and Review

41. The Renewables Obligation will be administered by Ofgem. Administration and enforcement will also be undertaken by Ofgem. The level of the buyout price, which will operate as an alternative to compliance, is subject to a further statutory consultation, the results of which will be incorporated in this document when available. Post Implementation Review (PIR) is subject to ministerial decision.

Contact point: Dr Marilyn Booth
Sustainable Energy Policy Unit
1 Victoria Street, London, SW1H 0ET
ro.consultation@dti.gsi.gov.uk
Tel: 020 7215 2653 Fax 020 7215 2674

Signed Declaration

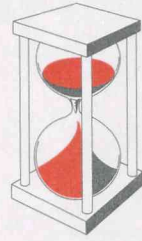
I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs.

Signed:

Minister for Energy and Competitiveness in Europe

Date:

FILE



Association for the
Conservation of Energy

Westgate House
Prebend Street • London N1 8PT
United Kingdom
Tel 020-7359 8000 • Fax 020-7359 0863
e-mail (general enquiries): info@ukace.org
web-site: www.ukace.org

26 June 2001

Mr Brian Hackland
Special Adviser
Policy Unit
10 Downing Street
London SW1A 2AA

→ AN
AA

Dear Brian

I have pleasure in attaching a copy of my column from this month's issue of Energy in Buildings and Industry. It concerns the failure by many local authorities to match the requirements made of them by the Home Energy Conservation Act 1995. I hope you find this of use.

Yours sincerely

A stylized handwritten signature in black ink, appearing to read 'Andrew Warren'.

Andrew Warren
Director

Local authorities must fight for HECA help

A lack of resources means that many local authorities are struggling to meet the demands of the 1995 Home Energy Conservation Act. Read the Act carefully and you'll find Government should be helping out.



The 1995 Home Energy Conservation Act (HECA) is routinely described as "the most important item of legislation concerning energy saving since Hitler's War." Despite this, it isn't working.

The Act itself is short and pithy. It requires every single local authority in Britain with housing responsibilities to draw up plans to improve energy performance of the area's entire residential stock – public and private – by 30 per cent by 2010. And then to report annually to Government on progress.

We have details of how much has been achieved after four years. The figures do not make happy reading. By now, on a straight trajectory of improvement, the average Energy Conservation Authority, as each council is now deemed, should have improved performance by 8 per cent. Some have done so. Indeed some have done far better. But in three out of four cases, ECAs are returning far lower figures; in some cases, there has been minimal, if any, improvement recorded.

Many of the more successful ECAs were early beneficiaries of the Energy Saving Trust's imaginative HECAAction scheme. In the four years it has operated, HECAAction has changed from simply rewarding the best performers, to trying to ensure that practically every local authority participates. Indeed much of the work undertaken within this programme is now devoted to offering help and guidance to those ECAs which historically have been less active on energy saving.

Colleagues of mine have been directly involved with running this scheme from the start. Mostly they have been impressed by the overt desire of participants to achieve substantial progress. Throughout, they have been made very aware of the difficulties councils face. Our research director, Dr Joanne Wade, concludes: "Very many feel they simply do not have the financial resources to meet that 30 per cent target."

Even those that are currently doing well are reporting that to reach the target set by 2010 may be impossible to achieve without substantially more money to invest. Few question the validity of the 30 per cent target. Indeed, in the run up to the passage into law of HECA, well over 200 local authorities passed formal motions of support for it. And every political party in Parliament endorsed its validity.

There can be no question that the 30 per cent target is a desirable one to retain. For ecological reasons. To help eliminate fuel poverty. To improve personal comfort. Yes, and to reduce the proportion of household income that has to be spent on buying fuel.

But with several ECAs reporting less than one per cent improvement so far, it is transparent that under current arrangements, that sensible target will not be achieved. Even those now ahead of the game admit it will be very difficult to meet.

The target itself has enormous support from both social and environmental campaigners who are alarmed at any suggestion of backsliding. Some are already being publicly critical of councils not on course. This has understandably led to some resentment – "we are doing our best on meagre resources." Developing a damaging division between "us" and "them."

This is sad. Because the reality is that all are on the same side. It is, in effect, a joint problem. Which in turn calls for joint solutions.

Given that the key difficulty is agreed to be the lack of financial resources available to implement HECA, it is worthwhile returning to the actual words of the 1995 Act. In particular, to Clause 7. This makes interesting reading: *'There shall be paid out of moneys provided by Parliament ... (b) any increase attributable to this Act in the sums payable out of such moneys under any other Act.'*

Note the word at the start. "Shall". Not "may". It is a duty. The wording of sub-para (b) is crucial. It means that if there are "increases...in the sums payable out of such moneys" (i.e. "moneys provided by Parliament) attributable to this Act (i.e. HECA), then those increases "shall be paid out of moneys provided by Parliament."

In layman's English, this means that, if an ECA can demonstrate clearly that it is unable to meet its statutory obligations under HECA within existing budgets, it is entitled to require central government to provide the additional resources. As simple as that.

If the Home Energy Conservation Act is to live up to even a part of the rhetoric of ambition ascribed to it, what is needed is a joint campaign between activists and ECAs. A new Partnership to realise that 30 per cent saving potential. Publication of this column formally launches it.

• For further information on the HECA - Partnership for 30 per cent Campaign, write to info@ukace.org

Andrew Warren is Director of the Association for the Conservation of Energy

MATRIX

to PR

Re 27/6

*SV
JH o/c
cc GW
OJ*

FAX MESSAGE

**Coal Health Claims Unit
Department of Trade and Industry
1 Victoria Street
London SW1H 0ET**

FROM :

Nigel Smith

Tel No : 0207 215 2626
Fax No : 0207 215 5370

To :

Name

Organisation

Fax Number

Helen Fleming

Cabinet Office

270 0166

Copy to :

Date: 20 June 2001

Helen

We spoke. Sorry for not sending it yesterday. Letter from Byers and Darling to Chief Sec now attached.

1) cc Simon Virley No 10.

Nigel

Not clear that this was copied to you - a report on compensation recovery for the coal health scheme. According to DTI, the heat has gone out of this issue as they are now making extensive interim settlements and the requests for miserly amounts of recovered benefits have stopped. Do you still want us to keep track (liaison with OJ) from now on, I



Secretary of State
for Trade and Industry

**The Rt Hon Andrew Smith MP
Chief Secretary to the Treasury
Treasury Chambers
Parliament Street
London
SW1P 3AG**

May 2001

Dear Andrew

Thank you for your letter of 2 March about compensation recovery from miners claiming compensation for respiratory diseases.

We attach a joint report which analyses a greater sample of cases than we had a month or so ago. It should be borne in mind however that, because, in the main, the older and sicker miners are ones that have reached the full and final stage and are able to be assessed for any compensation recovery, the pilot was unavoidably skewed towards that cohort who may warrant lower recoverable sums. It was therefore unrepresentative of the total population of claimants who are likely to qualify for special damages.

Notwithstanding this, we anticipate that 97% of those recovering special damages are unlikely to be affected and the maximum sum likely to be recovered is about £7.6m against damages of £1.7 billion. The DTI has also taken the decision to waive consideration of recovery from miners where the CRU certificate is for £100 or less. The pilot shows there is little risk of any miners in this category having their damages reduced and there will be a small administrative saving.

CM5021

The main findings of the report are:

- the amount to be recovered from the miners is likely to fall somewhere between £100k and £7.6m;
- the potential saving to HMG of waiving recovery, on the basis that DSS have to continue with individual assessments for legal reasons, would be £0.95m;
- less than 3% of claimants will have their damages reduced on account of benefit recovery and those that do will only have a small percentage of their compensation "clawed back";
- the pilot has not established whether more might be recoverable in the future from younger men whose onset of illnesses are more recent and whose claims are unlikely to be assessed in large numbers for a year or two;
- there are likely to be a small number of exceptional cases in which recent benefit payments can defensively be deducted from claims consistent with the principles of benefit recovery.

Overall, the pilot has not therefore established that the amount recoverable from the miner is likely to be de-minimis in comparison with the cost of recovery. The report therefore explores two other options: DTI waiving its right to recover for all claimants and waiving recovery for those over-60. Neither can be justified at present. It does seem clear however that very few miners will have their compensation reduced - the pilot suggests less than 3% of those who might otherwise have been caught by the legislation and these sums are likely to be small in proportion to the overall damages.

We are therefore minded not to change radically our policy at the present time but perhaps review it again in a few months time if there is evidence of old complaints being resurrected or new problems surfacing. In the meantime the DTI have decided to waive recovery in cases where a positive CRU certificate for £100 or less has been issued. The study suggests this would account for some 86% of cases, which may otherwise have had to be assessed for compensation recovery. Many of these will relate to short term benefits, often claimed many years ago by the miner, which would not be recoverable under the legislation.

CM5021

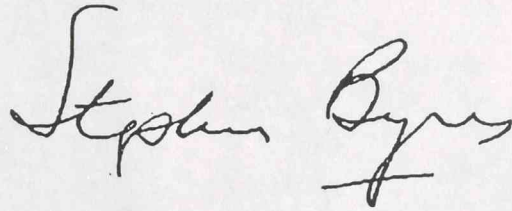
The change would achieve a modest but worthwhile administrative saving whilst preserving the principle of benefit recovery in the much smaller number of more significant cases.

We are copying this letter and the attached report with its appendices to Paul Murphy, Charlie Falconer and Helen Liddell.

Yours sincerely,



ALISTAIR DARLING



STEPHEN BYERS

CM5021

MINERS COMPENSATION AND BENEFIT RECOVERY

Joint report by DTI and DSS

Issue

1. Whether there is a case for DTI to waive its right to recover certain benefits from the miners' compensation payments.

Background

2. The principle of compensation recovery in the Social Security (Recovery of Benefits) Act 1997 is that people should not be compensated twice for the same loss, once by the state and once by the negligent employer.

3. There has been a steady campaign on behalf of miners suffering from Chronic Obstructive Pulmonary Disease (COPD) that they should be made exempt from the compensation recovery legislation and should not have to have benefit recoveries deducted from their damages. The main arguments put forward in support of this are:

- DSS are unable to correctly establish the first date of receipt of a benefit paid in consequence of the disease, given that this date is so far in the past;
- the administrative burden on the DTI and DSS outweighs any value from the small sums recovered; and
- in the vast majority of cases, because of the slow development of the disease, the benefits to be recovered will be short spells of a short-term benefit (e.g. Sickness Benefit), resulting in a very small recoverable sum.

4. Steps have been taken to address the first issue. These are:

- the CRU now obtain the short term benefit sheet when a claim is registered;
- the CRU are operating a flexible policy in identifying the first receipt of a benefit paid in consequence of the disease;
- DTI provide copies of all the medical records to the CRU to enable them to work from the same information as the solicitors;
- CRU certificates issued at the point of full and final offer of compensation are valid for 6 months rather than 6 weeks so that requests for revised certificates are only necessary in cases involving lengthy negotiations over the final offer; and

- "nil" certificates are issued at interim payment stages automatically (unless all information is available to the CRU) and the actual calculation of recoverable benefit is completed when the full and final offer is made by the DTI.
5. The second and third issues - that recoverable sums from the miners' damages would be very small and cost more to recover than they are worth - have been difficult to quantify to date. Although some 7,000 claims have been settled by payment, all but 43 of these are expedited payments. For these payments it is not possible for DTI to recover any benefits from the miner because the element of special damages is not broken down by specific heads. In the 43 final settlements recovery was due from the miner in only 3 cases. The amounts were £22,400, £1,680 and £22. However, if the sample of 43 were representative of the estimated total number of claims, the total recoverable amount would be £47m.
6. DTI took the view that the sample was insufficient to make an informed judgement on a waiver. If anything, the sample suggested that it would be inappropriate.
7. It was therefore decided that DTI and the CRU would conduct a pilot of a larger sample of cases to better inform any final decision.

The pilot

(a) Format

8. It was decided that the parties would examine a minimum of 200 cases represented by Hugh James in South Wales. The intention was to replicate the complete CRU assessment in each case from request of certificate to resolution of any reviews. This would result in an undisputed recoverable sum in each individual case. The sample consisted of claims which had reached the point where special damages could be assessed that took account of all ages and varying levels of disability. The sample also included 33 bereaved claims. It represented a good cross section of the claims that had progressed to the stage where special damages could be assessed, i.e. post-medical assessment but, as Appendix 3 shows, it is not wholly representative of the claimant population as a whole. This is discussed further in paragraphs 17 to 19 below.

(b) Findings

9. The CRU have issued 202 certificates. Of these, 101 are "nil" certificates. Eleven of these are "partial nils" where not all the information the CRU require has been received. They may, therefore, be subject to change. However, under the "6 month validity" policy, as long as the claim is settled during that 6 month period, then the "nil" certificate is usable.

10. The remaining 101 require DTI to pay DSS in respect of past benefits received by the miner. The highest recoverable sum is £5,205 with the second highest being

£4,490. The smallest recoverable sum is £0.81p. The total amount payable to DSS by DTI is £15,991 an average of £158 per claim for those where there is some recovery.

11. More important is how these amounts translate into the sums recoverable from the miner by the DTI. In the 101 cases where the CRU certificate is "nil", there will obviously be no recovery from the miner. Of the 101 cases where the CRU certificate indicates some benefit is payable to the DSS by the DTI, IRISC - the DTI's claims handlers - have assessed the special damages payments. Compensation is recoverable from the miner in just one case - a sum of £221 from damages totalling £31,000. So, of the 202 cases that have been through the complete process in the pilot only one miner has had benefit deducted from his damages.

12. A full analysis of the pilot is attached at Appendix 1 listed by size of the sum on the CRU certificate. Appendix 2 is the same analysis listed by age, youngest first.

(c) Conclusion

13. If the pilot is representative of the 77,000 claimants who we anticipate will successfully claim special damages, the total amount recoverable by DTI from the miner would be £84k. If we also include the additional existing sample of 43 (effectively increasing the pilot to 245) then the amount recoverable from the miner would be £7.6m. However, further work done in the context of the pilot suggested that the recovery of £22,000 from one of the original 43 claimants was unusual. The claimant, after having left British Coal's employment, moved to S. Africa for 10 years where his condition deteriorated. On his return to Britain he claimed benefit due to his disability. This was therefore the date of first claim and the point at which the 5 years of benefit payments began. If he had remained in this country his date of first benefit would have been significantly earlier thus reducing the amount of recoverable benefit and the deduction from his compensation. It was this information that recently caused the solicitors to drop their appeal against the CRU certificate in this case.

14. This case seems unusual and if we treat this case as an anomaly and remove it from the sample, the total recoverable sum from the miners would be £607k. But, we do not know how many other unusual cases there may be and it would not be appropriate to remove it from the analysis as the only likely anomaly.

15. In any event, it appears that the potential costs and possible delays of continuing to assess individual certificates are relatively small and it is difficult to justify not recovering even potentially small sums. Firstly, interest is accruing on claims with special damages at roughly the rate of £2 per day. If we assume that, on average, CRU certificates take 10 days to be issued after the final offer is made then £20 would accrue to the DTI across all 77,000 claimants amounting to £1.54m if all solicitors delayed accepting the offer immediately. Many claimants will, however, accept the offer in advance of seeing the CRU certificate e.g. where they

know they have never claimed a long term benefit. This could halve the potential saving to about £0.75m. Although this would be the cost to the DTI the net cost to HMG would be somewhat less as there would be a time value accorded to the amount by paying later rather than sooner. HMT advise that such time value is unlikely to negate the saving to the DTI but would certainly reduce it - (by how much they are unable to say). Additionally, if we assume IRISC claims handlers require 10 minutes to calculate recovery and process a certificate and, based on the pilot, this would be required in half the cases, it would require about 800 man-days amounting to £75k. Finally there are the additional opportunity costs of freeing up the time to process more cases.

16. There could also be further administrative savings for the DSS and DTI if the 2 Departments agreed a method of payment from one to the other that avoided the need for individual calculation. Current CRU costs are estimated to be £43 per claim (although the average has been higher in the past when more reviews from solicitors were occupying CRU's time). If this could be avoided, there would be a further saving of £3.3m. Also, if individual assessments were not required at the CRU there would be no need for DTI to burn the medical records onto CD in each case. This would result in a further saving of about £100k. CRU have indicated however that there are potential legal difficulties under the legislation with not doing individual assessments. If that is the case then DTI could consider keeping open the option of recovery at least in unusually high cases.

17. Appendix 3 shows the age profile of the pilot exercise and that of the existing claimant population. 95% of those assessed in the pilot were over age 60 which equates to 76% of the claimant population. Only 5% of those assessed in the pilot were under age 60 which equates to 24% of the claimant population.

18. The pilot is not therefore representative of the population. It was anticipated that the relevant recovery period for the older miners will be many years in the past, resulting in small amounts to be recovered both in terms of what DTI pays to the CRU and what DTI can recover from the miner. It has always been assumed that as cases involving younger, less sick miners progress through the system, the recovery period will become more recent and the amount of recovery, both by the DSS and from the miner, will be proportionately higher.

19. However, this is not borne out by the 10 under-60 cases assessed in the pilot. In those cases benefit was recoverable by the DSS in 6 cases ranging from £5.86 to £442.67 with 4 assessed as nil. No benefit was recoverable from the miner in any of the 10 cases. It is also worth noting that the one instance of CRU recovery was in respect of a 79 year-old and the 4 largest CRU certificates were for claimants in their 70s. We can only speculate as to the reasons for this. It may be that the younger claimants - under 60 - are generally less ill because the majority of their working life was during a period when dust suppression techniques were improving, generally thought to be about 1977 onwards. Either way, the sample of under-60s in the pilot is so small that it would be unwise to assume these outcomes are representative of the many claims from younger miners that have still to work their way through the process.

Options

20. Taking account of the results of the pilot, we have considered three possible options as follows:

- (a) DTI waive its right to recover from all miners;
- (b) DTI waive its right to recover from claimants aged over 60 on the basis that the sums are likely to be insignificant but wait to take a view on the under-60s until we have more information;
- (c) DTI and DSS continue to assess benefit recovery consistent with the legislation and the streamlining procedures introduced in the knowledge that very few miners will have their damages reduced but preserving the principle;

Discussion

21. The pilot shows that the amount to be recovered from the miners is likely to fall somewhere between £100k (£84k plus one exceptional case of £22k) and £7.6m. The total administration costs to DSS if CRU did not continue to assess all claims would be almost nothing. However, DSS have received legal advice that individual assessments are required. Any change to this would require primary legislation. On that basis, if DTI were to waive its recovery, the savings to DTI would amount to about £0.95m (£0.77m interest + £0.075m IRISC admin + £0.1m record copying). But, to HMG it would be somewhat less to account for the time value of the interest element as explained above in paragraph 15.

22. We can conclude that:

- (i) the pilot has shown that very few miners (less than 3%) will be affected by CRU recovery at all and that recoverable sums from those affected will be a small percentage of their total damages;
- (ii) there are likely to be a small number of exceptional cases in which recent benefit payments can defensibly be deducted from claims, consistent with the principle of benefit recovery captured in the legislation;
- (iii) the pilot has not established unequivocally that the amount likely to be recoverable is de minimis relevant to the low cost of recovery.

23. The **first option** – a total waiver – is not justified at this stage either on the basis of the pilot or, given that in a year or so, the DTI will be settling claims for younger men under-represented in the pilot who may be subject to higher levels of recovery. We can, at present, only speculate about what those CRU certificates will be and how much, if anything, will be recovered from the miner. Nor can a waiver be justified on vfm grounds given that administrative savings to HMG are likely to

be less than £1m and the analysis so far indicates that the cost of waiving could be between £100k and £7.6m.

24. The **second option**, given the uncertainty about the likely levels of recovery from miners under 60, is that a waiver might be granted to those miners over 60 where it is more likely that any recoverable sums will be small and we can retain the right to assess recovery in the cases of the younger men which are under-represented in the pilot. However, there is no strong basis for assuming that there will be no high recovery cases for claimants over 60 (for example, the exceptional case in the original 43 was over 70). Nor, given that DSS have to carry out individual assessments in any event, is there much justification for DTI not making individual assessments given that any potential savings would be even smaller under this option than for a total waiver. An alternative would be for DTI to retain the right to assess recovery from the miner in cases where the CRU certificate exceeded a certain sum. Any figure though would be arbitrary at this stage. A sum of £5,000 would have been sufficient to catch the 2 significant recoveries made to date (one of £22k and one of £1.7k) but it is quite possible for a CRU certificate to be for £4,500 with the whole sum recoverable from the miner. At present, there is no sensible way of setting such a level. Such decisions would, however, be at DTI's discretion and would not require any legislation or set precedents for other categories of industrial worker like, for instance, DSS exempting a certain category of miner based on age.

25. As an alternative to sending individually calculated certificates to the DTI for all those over-60, it has been suggested that the CRU log the amounts to be recovered from DTI and request a lump sum payment on a periodic basis - say every 6 or 12 months. If the DTI did set a level above which they would retain the right to assess recovery, the CRU would exceptionally need to issue to IRISC and the solicitors any certificate which exceeded the agreed level. It would also mean that the CRU would have to maintain the same levels of administrative effort that are currently in place.

26. Against this background, the **third option** - to make no further changes other than the streamlining already in place - is the most attractive. The pilot provides no conclusive evidence that recovery across all age bands will be insignificant. However, it does show that the numbers and levels of recovery are, in the majority of cases, likely to be small. In addition, the administrative changes put into place by the DSS have successfully reduced the time it has previously taken to produce a certificate. For example, when the CRU receive a copy of a claimant's medical report they can assume that an offer of compensation will follow shortly afterward together with the formal request for a certificate. This means that the work can be put in progress in advance of the formal request. CRU should then be able to issue the certificate at an earlier point during the statutory 28 day period than might otherwise be the case. Latest estimates show that the average length of time to issue a certificate is 16 days. Obviously the quicker the CRU can provide the certificate, the quicker the offers can be accepted.

Conclusion

27. It is recommended that we make no change to the existing procedures. Miners on the whole will be unaffected. Delays should no longer occur as long as there is proper communication and exchange of information between the CRU and IRISC. Media interest and criticism has subsided possibly because critics of the procedures are unable to locate any miner who has experienced more than a small reduction in damages. The pilot, while providing a better picture of the situation, also under-represented younger miners where recovery levels by both the CRU and from the miner could be higher in the future.

DTI/DSS
9 April 2001

CRU Hugh James Pilot

APPENDIX 1

Status	Damages Paid	Total CRU Paid	CRU Recovered	Age
Live	£39,526.90	£5,205.12	£0.00	79
Live	£20,219.96	£4,489.96	£0.00	73
Live	To Value	£1,449.24	£0.00	76
Live	To Value	£854.05	£0.00	74
Live	£70,924.75	£499.11	£0.00	66
Live	To Value	£442.67	£0.00	54
Live	£89,898.31	£375.60	£0.00	66
Live	To Value	£286.91	£0.00	77
Live	£18,071.44	£248.20	£0.00	88
Live	£30,951.42	£220.93	£220.93	80
Live	£13,137.34	£172.34	£0.00	74
Live	£12,218.83	£145.88	£0.00	69
Live	£7,493.60	£133.89	£0.00	70
Live	£18,130.44	£107.25	£0.00	77
Live	£33,517.79	£97.56	£0.00	72
Live	£10,744.22	£89.40	£0.00	71
Live	£3,287.55	£66.54	£0.00	70
Live	£1,370.02	£61.46	£0.00	77
Live	£7,462.79	£57.80	£0.00	69
Live	£26,672.73	£57.19	£0.00	86
Live	£3,718.38	£56.76	£0.00	83
Live	To Value	£52.27	£0.00	60
Live	£5,442.63	£45.38	£0.00	80
Live	£10,108.47	£42.75	£0.00	89
Live	£24,989.41	£37.17	£0.00	81
Live	£20,974.83	£36.83	£0.00	85
Live	To Value	£29.51	£0.00	73
Live	To Value	£27.70	£0.00	70
Live	£964.20	£27.53	£0.00	45
Live	£59,508.79	£24.48	£0.00	68
Live	£4,074.22	£23.66	£0.00	88
Live	To Value	£23.48	£0.00	85
Live	To Value	£23.27	£0.00	80
Live	£23,557.39	£23.25	£0.00	79
Live	£24,722.18	£21.38	£0.00	66
Live	£61,563.29	£21.19	£0.00	78
Live	£33,105.06	£20.83	£0.00	79
Live	To Value	£20.67	£0.00	66
Live	£21,911.58	£17.41	£0.00	69

h:\copd\damages\CRU by age and amount 2.xls/f&f_160201

CRU Hugh James Pilot

APPENDIX 1

Live	To Value	£17.07	£0.00	74
Live	£4,253.77	£16.90	£0.00	85
Live	£14,258.98	£15.39	£0.00	71
Live	£996.89	£15.12	£0.00	77
Live	£3,181.40	£15.00	£0.00	81
Deceased	£17,006.44	£13.27	£0.00	90
Live	To Value	£12.35	£0.00	72
Live	£9,836.86	£11.26	£0.00	69
Live	To Value	£10.80	£0.00	63
Live	£3,802.99	£10.67	£0.00	78
Live	£22,146.00	£10.51	£0.00	77
Live	£5,386.08	£9.98	£0.00	78
Live	£4,315.55	£9.75	£0.00	58
Live	To Value	£8.11	£0.00	69
Live	£25,692.69	£7.72	£0.00	80
Live	To Value	£7.45	£0.00	73
Live	To Value	£6.80	£0.00	59
Live	£31,447.21	£6.76	£0.00	78
Live	£1,788.01	£6.67	£0.00	84
Live	£6,488.58	£6.67	£0.00	84
Live	£3,031.85	£6.50	£0.00	84
Live	£3,824.48	£6.34	£0.00	85
Live	£5,197.14	£6.20	£0.00	87
Live	£5,061.81	£5.86	£0.00	59
Live	£2,348.44	£5.65	£0.00	86
Live	To Value	£5.33	£0.00	78
Live	To Value	£5.00	£0.00	62
Deceased	£65,133.18	£4.76	£0.00	87
Live	£22,639.56	£4.40	£0.00	75
Live	To Value	£4.32	£0.00	71
Live	£50,718.57	£4.17	£0.00	65
Live	£20,041.72	£4.16	£0.00	90
Live	£10,810.72	£3.89	£0.00	73
Live	£4,796.47	£3.75	£0.00	67
Live	£48,791.55	£3.68	£0.00	71
Live	£10,852.39	£3.66	£0.00	75
Live	To Value	£3.47	£0.00	94
Live	£3,472.59	£3.36	£0.00	77
Live	£6,892.32	£3.34	£0.00	63
Live	To Value	£3.33	£0.00	72

n/copd/damages/CRU by age and amount 2.xlsf&f_160201

CRU Hugh James Pilot

APPENDIX 1

Live	To Value	£3.33	£0.00	73
Live	£2,407.84	£3.02	£0.00	85
Live	£81,492.55	£2.92	£0.00	63
Live	To Value	£2.92	£0.00	66
Live	To Value	£2.92	£0.00	76
Live	To Value	£2.82	£0.00	85
Live	£10,160.74	£2.67	£0.00	71
Live	£25,125.07	£2.60	£0.00	68
Live	£7,960.28	£2.33	£0.00	81
Live	To Value	£2.08	£0.00	72
Live	£12,780.04	£1.89	£0.00	75
Deceased	To Value	£1.73	£0.00	80
Live	£5,981.45	£1.67	£0.00	63
Live	To Value	£1.67	£0.00	68
Live	To Value	£1.62	£0.00	77
Live	To Value	£1.55	£0.00	74
Live	£3,780.68	£1.35	£0.00	67
Live	£26,794.99	£1.35	£0.00	77
Live	£6,391.19	£1.33	£0.00	80
Live	£7,355.01	£1.25	£0.00	73
Live	£51,160.42	£1.08	£0.00	81
Live	£60,488.09	£0.81	£0.00	72
Live	To Value	£0.00	£0.00	54
Live	£13,083.92	£0.00	£0.00	54
Deceased	To Value	£0.00	£0.00	55
Live	To Value	£0.00	£0.00	56
Live	£8,730.50	£0.00	£0.00	62
Live	£85,445.13	£0.00	£0.00	62
Live	£2,945.91	£0.00	£0.00	62
Live	£58,770.10	£0.00	£0.00	67
Live	£5,941.86	£0.00	£0.00	68
Live	£5,900.20	£0.00	£0.00	68
Deceased	To Value	£0.00	£0.00	70
Live	£9,255.73	£0.00	£0.00	70
Live	£3,996.83	£0.00	£0.00	71
Live	£33,418.30	£0.00	£0.00	71
Live	£11,553.95	£0.00	£0.00	71
Deceased	£46,171.21	£0.00	£0.00	72
Live	£28,365.00	£0.00	£0.00	72
Live	£6,441.20	£0.00	£0.00	73

n:\copd/damages/CRU by age and amount 2.xls/f&f_160201

CRU Hugh James Pilot

APPENDIX 1

Live	£6,530.08	£0.00	£0.00	73
Live	£5,146.65	£0.00	£0.00	74
Live	£10,996.25	£0.00	£0.00	74
Live	£2,443.14	£0.00	£0.00	74
Live	£3,367.13	£0.00	£0.00	74
Live	£8,759.50	£0.00	£0.00	74
Live	£8,403.08	£0.00	£0.00	75
Live	£5,590.81	£0.00	£0.00	75
Live	To Value	£0.00	£0.00	75
Live	£2,794.44	£0.00	£0.00	75
Live	£31,226.30	£0.00	£0.00	75
Deceased	To Value	£0.00	£0.00	75
Deceased	£32,278.70	£0.00	£0.00	75
Live	£32,233.76	£0.00	£0.00	76
Live	£909.68	£0.00	£0.00	76
Live	£21,911.58	£0.00	£0.00	76
Live	£5,371.93	£0.00	£0.00	76
Live	£12,435.84	£0.00	£0.00	76
Deceased	To Value	£0.00	£0.00	76
Live	£8,431.62	£0.00	£0.00	76
Live	£4,225.89	£0.00	£0.00	76
Live	£4,671.46	£0.00	£0.00	77
Live	To Value	£0.00	£0.00	77
Live	To Value	£0.00	£0.00	77
Live	£4,713.05	£0.00	£0.00	77
Live	£36,717.23	£0.00	£0.00	78
Live	£17,803.81	£0.00	£0.00	78
Live	To Value	£0.00	£0.00	78
Live	£12,108.84	£0.00	£0.00	79
Live	£5,317.22	£0.00	£0.00	79
Live	£2,448.72	£0.00	£0.00	79
Live	£5,263.45	£0.00	£0.00	80
Live	£3,940.88	£0.00	£0.00	80
Deceased	To Value	£0.00	£0.00	80
Live	£2,329.22	£0.00	£0.00	80
Deceased	£34,065.37	£0.00	£0.00	80
Deceased	£10,783.50	£0.00	£0.00	80
Live	£16,108.03	£0.00	£0.00	81
Live	£3,266.98	£0.00	£0.00	81
Deceased	£21,051.57	£0.00	£0.00	81

CRU Hugh James Pilot

APPENDIX 1

Live	£9,628.83	£0.00	£0.00	81
Live	£6,463.70	£0.00	£0.00	81
Live	£2,027.02	£0.00	£0.00	81
Live	£5,767.10	£0.00	£0.00	81
Live	To Value	£0.00	£0.00	82
Deceased	£4,989.88	£0.00	£0.00	82
Live	£7,000.45	£0.00	£0.00	82
Live	£5,940.74	£0.00	£0.00	82
Live	£7,841.74	£0.00	£0.00	82
Live	£1,925.46	£0.00	£0.00	83
Live	£7,068.90	£0.00	£0.00	83
Live	£3,410.33	£0.00	£0.00	83
Deceased	£1,380.83	£0.00	£0.00	84
Deceased	£3,275.19	£0.00	£0.00	84
Live	£4,177.80	£0.00	£0.00	84
Deceased	To Value	£0.00	£0.00	85
Live	To Value	£0.00	£0.00	85
Live	To Value	£0.00	£0.00	85
Live	£29,219.61	£0.00	£0.00	85
Live	£5,105.44	£0.00	£0.00	86
Live	£2,192.80	£0.00	£0.00	86
Live	£4,569.60	£0.00	£0.00	86
Live	£7,217.89	£0.00	£0.00	86
Deceased	£13,386.81	£0.00	£0.00	87
Live	£5,197.14	£0.00	£0.00	87
Deceased	£8,459.02	£0.00	£0.00	88
Deceased	£4,597.95	£0.00	£0.00	88
Deceased	To Value	£0.00	£0.00	89
Live	£34,975.88	£0.00	£0.00	89
Live	£1,884.50	£0.00	£0.00	89
Deceased	To Value	£0.00	£0.00	89
Live	£1,500.01	£0.00	£0.00	89
Deceased	To Value	£0.00	£0.00	90
Deceased	£5,019.90	£0.00	£0.00	90
Deceased	£37,795.80	£0.00	£0.00	90
Deceased	To Value	£0.00	£0.00	90
Deceased	£24,306.93	£0.00	£0.00	91
Deceased	£15,835.89	£0.00	£0.00	91
Deceased	To Value	£0.00	£0.00	93
Deceased	To Value	£0.00	£0.00	93

CRU Hugh James Pilot

APPENDIX 1

Deceased	To Value	£0.00	£0.00	95
Deceased	To Value	£0.00	£0.00	99
Deceased	£8,459.02	£0.00	£0.00	102

Total Damages Paid:	£2,398,648.82
Total CRU Recovered from Claimant:	£220.93
Total CRU Paid to DSS:	£15,990.85
Total Claims Settled:	149

NB. All figures are subject to agreement at negotiation

CRU details updated have been valued against the relevant heads of damage

CRU Hugh James Pilot

APPENDIX 2

Status	Damages Paid	Total CRU Paid	CRU Recovered	Age
Live	£964.20	£27.53	£0.00	45
Live	To Value	£0.00	£0.00	54
Live	To Value	£442.67	£0.00	54
Live	£13,083.92	£0.00	£0.00	54
Deceased	To Value	£0.00	£0.00	55
Live	To Value	£0.00	£0.00	56
Live	£4,315.55	£9.75	£0.00	58
Live	£5,061.81	£5.86	£0.00	59
Live	To Value	£6.80	£0.00	59
Live	To Value	£52.27	£0.00	60
Live	£8,730.50	£0.00	£0.00	62
Live	£85,445.13	£0.00	£0.00	62
Live	£2,945.91	£0.00	£0.00	62
Live	To Value	£5.00	£0.00	62
Live	£81,492.55	£2.92	£0.00	63
Live	£6,892.32	£3.34	£0.00	63
Live	£5,981.45	£1.67	£0.00	63
Live	To Value	£10.80	£0.00	63
Live	£50,718.57	£4.17	£0.00	65
Live	£89,898.31	£375.60	£0.00	66
Live	£24,722.18	£21.38	£0.00	66
Live	To Value	£20.67	£0.00	66
Live	To Value	£2.92	£0.00	66
Live	£70,924.75	£499.11	£0.00	67
Live	£3,780.68	£1.35	£0.00	67
Live	£58,770.10	£0.00	£0.00	67
Live	£4,796.47	£3.75	£0.00	67
Live	£25,125.07	£2.60	£0.00	68
Live	To Value	£1.67	£0.00	68
Live	£5,941.86	£0.00	£0.00	68
Live	£59,508.79	£24.48	£0.00	68
Live	£5,900.20	£0.00	£0.00	68
Live	To Value	£8.11	£0.00	69
Live	£7,462.79	£57.80	£0.00	69
Live	£9,836.86	£11.26	£0.00	69
Live	£21,911.58	£17.41	£0.00	69
Live	£12,218.83	£145.88	£0.00	69
Deceased	To Value	£0.00	£0.00	70
Live	£9,255.73	£0.00	£0.00	70

CRU Hugh James Pilot

APPENDIX 2

Live	£3,287.55	£66.54	£0.00	70
Live	To Value	£27.70	£0.00	70
Live	£7,493.60	£133.89	£0.00	70
Live	To Value	£4.32	£0.00	71
Live	£14,258.98	£15.39	£0.00	71
Live	£3,996.83	£0.00	£0.00	71
Live	£33,418.30	£0.00	£0.00	71
Live	£11,553.95	£0.00	£0.00	71
Live	£48,791.55	£3.68	£0.00	71
Live	£10,744.22	£89.40	£0.00	71
Live	£10,160.74	£2.67	£0.00	71
Live	£60,488.09	£0.81	£0.00	72
Live	To Value	£3.33	£0.00	72
Deceased	£46,171.21	£0.00	£0.00	72
Live	£28,365.00	£0.00	£0.00	72
Live	To Value	£12.35	£0.00	72
Live	To Value	£2.08	£0.00	72
Live	£33,517.79	£97.56	£0.00	72
Live	£20,219.96	£4,489.96	£0.00	73
Live	£7,355.01	£1.25	£0.00	73
Live	£6,441.20	£0.00	£0.00	73
Live	£6,530.08	£0.00	£0.00	73
Live	To Value	£3.33	£0.00	73
Live	To Value	£29.51	£0.00	73
Live	£10,810.72	£3.89	£0.00	73
Live	To Value	£7.45	£0.00	73
Live	To Value	£17.07	£0.00	74
Live	£5,146.65	£0.00	£0.00	74
Live	£10,996.25	£0.00	£0.00	74
Live	£2,443.14	£0.00	£0.00	74
Live	To Value	£1.55	£0.00	74
Live	To Value	£854.05	£0.00	74
Live	£3,367.13	£0.00	£0.00	74
Live	£8,759.50	£0.00	£0.00	74
Live	£13,137.34	£172.34	£0.00	74
Live	£8,403.08	£0.00	£0.00	75
Live	£5,590.81	£0.00	£0.00	75
Live	To Value	£0.00	£0.00	75
Live	£22,639.56	£4.40	£0.00	75
Live	£2,794.44	£0.00	£0.00	75

CRU Hugh James Pilot

APPENDIX 2

Live	£31,226.30	£0.00	£0.00	75
Live	£10,852.39	£3.66	£0.00	75
Deceased	To Value	£0.00	£0.00	75
Live	£12,780.04	£1.89	£0.00	75
Deceased	£32,278.70	£0.00	£0.00	75
Live	To Value	£1,449.24	£0.00	76
Live	£32,233.76	£0.00	£0.00	76
Live	£909.68	£0.00	£0.00	76
Live	£21,911.58	£0.00	£0.00	76
Live	£5,371.93	£0.00	£0.00	76
Live	To Value	£2.92	£0.00	76
Live	£12,435.84	£0.00	£0.00	76
Deceased	To Value	£0.00	£0.00	76
Live	£8,431.62	£0.00	£0.00	76
Live	£4,225.89	£0.00	£0.00	76
Live	£4,671.46	£0.00	£0.00	77
Live	To Value	£0.00	£0.00	77
Live	£3,472.59	£3.36	£0.00	77
Live	£22,146.00	£10.51	£0.00	77
Live	To Value	£286.91	£0.00	77
Live	£26,794.99	£1.35	£0.00	77
Live	£1,370.02	£61.46	£0.00	77
Live	£996.89	£15.12	£0.00	77
Live	To Value	£1.62	£0.00	77
Live	To Value	£0.00	£0.00	77
Live	£4,713.05	£0.00	£0.00	77
Live	£18,130.44	£107.25	£0.00	77
Live	£61,563.29	£21.19	£0.00	78
Live	£31,447.21	£6.76	£0.00	78
Live	£36,717.23	£0.00	£0.00	78
Live	£17,803.81	£0.00	£0.00	78
Live	£3,802.99	£10.67	£0.00	78
Live	To Value	£0.00	£0.00	78
Live	To Value	£5.33	£0.00	78
Live	£5,386.08	£9.98	£0.00	78
Live	£33,105.06	£20.83	£0.00	79
Live	£12,108.84	£0.00	£0.00	79
Live	£5,317.22	£0.00	£0.00	79
Live	£23,557.39	£23.25	£0.00	79
Live	£2,448.72	£0.00	£0.00	79

CRU Hugh James Pilot

APPENDIX 2

Live	£39,526.90	£5,205.12	£0.00	79
Live	£25,692.69	£7.72	£0.00	80
Live	£5,442.63	£45.38	£0.00	80
Live	£5,263.45	£0.00	£0.00	80
Live	£3,940.88	£0.00	£0.00	80
Live	£30,951.42	£220.93	£220.93	80
Deceased	To Value	£0.00	£0.00	80
Live	£2,329.22	£0.00	£0.00	80
Live	To Value	£23.27	£0.00	80
Deceased	£34,065.37	£0.00	£0.00	80
Deceased	£10,783.50	£0.00	£0.00	80
Deceased	To Value	£1.73	£0.00	80
Live	£6,391.19	£1.33	£0.00	80
Live	£16,108.03	£0.00	£0.00	81
Live	£3,266.98	£0.00	£0.00	81
Live	£7,960.28	£2.33	£0.00	81
Live	£51,160.42	£1.08	£0.00	81
Live	£24,989.41	£37.17	£0.00	81
Deceased	£21,051.57	£0.00	£0.00	81
Live	£9,628.83	£0.00	£0.00	81
Live	£6,463.70	£0.00	£0.00	81
Live	£2,027.02	£0.00	£0.00	81
Live	£5,767.10	£0.00	£0.00	81
Live	£3,181.40	£15.00	£0.00	82
Live	To Value	£0.00	£0.00	82
Deceased	£4,989.88	£0.00	£0.00	82
Live	£7,000.45	£0.00	£0.00	82
Live	£5,940.74	£0.00	£0.00	82
Live	£7,841.74	£0.00	£0.00	82
Live	£1,925.46	£0.00	£0.00	83
Live	£3,718.38	£56.76	£0.00	83
Live	£7,068.90	£0.00	£0.00	83
Live	£3,410.33	£0.00	£0.00	83
Deceased	£1,380.83	£0.00	£0.00	84
Deceased	£3,275.19	£0.00	£0.00	84
Live	£3,031.85	£6.50	£0.00	84
Live	£4,177.80	£0.00	£0.00	84
Live	£1,788.01	£6.67	£0.00	84
Live	£6,488.58	£6.67	£0.00	84
Live	£3,824.48	£6.34	£0.00	85

CRU Hugh James Pilot

APPENDIX 2

Live	£2,407.84	£3.02	£0.00	85
Deceased	To Value	£0.00	£0.00	85
Live	£4,253.77	£16.90	£0.00	85
Live	To Value	£0.00	£0.00	85
Live	To Value	£2.82	£0.00	85
Live	To Value	£0.00	£0.00	85
Live	£20,974.83	£38.83	£0.00	85
Live	To Value	£23.48	£0.00	85
Live	£29,219.61	£0.00	£0.00	85
Live	£26,672.73	£57.19	£0.00	86
Live	£5,105.44	£0.00	£0.00	86
Live	£2,192.80	£0.00	£0.00	86
Live	£4,569.60	£0.00	£0.00	86
Live	£7,217.89	£0.00	£0.00	86
Live	£5,197.14	£6.20	£0.00	87
Live	£2,348.44	£5.65	£0.00	87
Deceased	£85,133.18	£4.76	£0.00	87
Deceased	£13,386.81	£0.00	£0.00	87
Live	£5,197.14	£0.00	£0.00	87
Deceased	£8,459.02	£0.00	£0.00	88
Deceased	£4,597.95	£0.00	£0.00	88
Live	£4,074.22	£23.66	£0.00	88
Live	£18,071.44	£248.20	£0.00	88
Deceased	To Value	£0.00	£0.00	89
Live	£34,975.88	£0.00	£0.00	89
Live	£1,884.50	£0.00	£0.00	89
Deceased	To Value	£0.00	£0.00	89
Live	£10,108.47	£42.75	£0.00	89
Live	£1,500.01	£0.00	£0.00	89
Deceased	To Value	£0.00	£0.00	90
Deceased	£5,019.90	£0.00	£0.00	90
Deceased	£37,795.80	£0.00	£0.00	90
Deceased	£17,006.44	£13.27	£0.00	90
Deceased	To Value	£0.00	£0.00	90
Live	£20,041.72	£4.16	£0.00	90
Deceased	£24,306.93	£0.00	£0.00	91
Deceased	£15,835.89	£0.00	£0.00	91
Deceased	To Value	£0.00	£0.00	93
Deceased	To Value	£0.00	£0.00	93
Live	To Value	£3.47	£0.00	94

CRU Hugh James Pilot

APPENDIX 2

Deceased	To Value	£0.00	£0.00	95
Deceased	To Value	£0.00	£0.00	99
Deceased	£8,459.02	£0.00	£0.00	102

Total Damages Paid:	£2,398,648.82
Total CRU Recovered from Claimant:	£220.93
Total CRU Paid to DSS:	£15,990.95
Total Claims Settled:	149

NB. All figures are subject to agreement at negotiation

CRU details updated have been valued against the relevant heads of damage

APPENDIX 3

COMPARISON OF PILOT POPULATION WITH CLAIMANT POPULATION

Age band	Pilot No.	% of total	Total Claimants No.	% of total
30-40	0	0%	4,709	3.5%
41-50	1	0.5%	10,501	7.7%
51-60	9	4.5%	17,217	12.7%
61-70	28	14%	30,579	22.5%
71-80	88	43.6%	38,814	28.6%
81+	76	37.4%	34,129	25%
Totals	202	100%	135,949	100%



British Energy

Mr Brian Hackland
Policy Unit
10 Downing Street
London
SW1A 2AA

phoned 25/6.
① Annette - please acknowledge
- and tell them that
DN is now dealing w. the
env (+ GN w. energy)
② GN/GJ - to see
③ ~~DN/PA~~
(1)
for 25/6.

18th June 2001

A Mortgaged Future?
The Consequences of UK Energy Policy
9.15am - 12.45pm, Wednesday 14 February
Church House, Great Smith Street, London SW1

Dear Mr Hackland

Further to the fourth British Energy seminar at Church House, earlier this year, I am delighted to enclose a copy of our synopsis of the event.

Yours sincerely

Peter Haslam
(Director of Public Affairs)

British Energy plc 14/16 Cockspur Street London SW1Y 5BL
Telephone 0207 389 3408 Facsimile 0207 389 3421

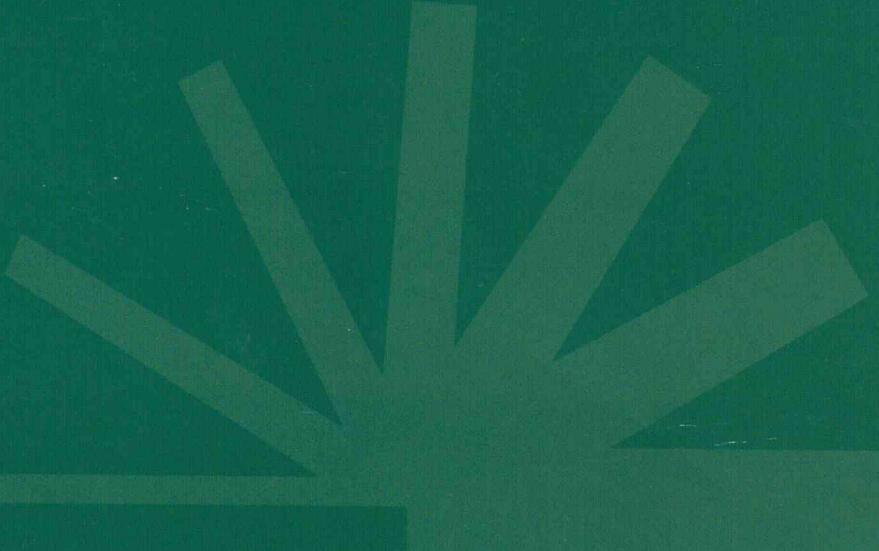
Registered address 3 Redwood Crescent Peel Park East Kilbride G74 5PR Registered Number 162273



a mortgaged future?



the consequences
of UK energy policy



an open forum debate with leading
figures in energy and environment policy

fourth in the British Energy series of seminars



a mortgaged future?
the consequences of
UK energy policy



key points from a seminar
held in London on
wednesday 14th february 2001

distributed by
British Energy plc

Contents

Introduction Peter Hollins, Chief Executive, British Energy plc	2
Dynamics of the UK Energy Market Neil Hirst, Deputy Director General, Energy, Department of Trade & Industry	3
Energy Policy and Environmental Impacts Dr Dieter Helm, Director, OXERA	6
Lessons From Abroad? Malcolm Keay, Deputy Head, Energy & Environment Programme, Royal Institute of International Affairs	9
Exploring Public Attitudes to Energy and the Environment Tom Bentley, Director, Demos	12
A Political Perspective Martin O'Neill MP	15
Previous British Energy Seminars	17

Introduction

Peter Hollins, Chief Executive, British Energy plc



Peter Hollins

This document is a summary of the proceedings of a British Energy seminar "A Mortgaged Future? The Consequences of UK Energy Policy" held at Church House, Westminster on 14th February 2001 before a large audience of politicians, civil servants, business people, academics and others.

What follows challenges the proposition that cheap is good and cheapest is best - at least so far as energy policy is concerned. There are serious tensions in government policy between the desire to drive down energy prices, and the effects this has on the environment. Recent events in California may be an extreme example of what can go wrong if the question of price is placed above all others. But the warning signs are there and make informed debate, such as at our seminar, extremely timely.

British Energy's role at this event, as at our three previous energy seminars, was simply that of facilitator. We make no secret of our belief that greater understanding of the issues would be to the benefit of the electricity generating industry. But we fielded no speaker, aiming instead for honest and stimulating discussion between an independent, and high powered, panel and a diverse audience.

I hope you enjoy this summary. Further information on the seminar, and on its predecessors, can be obtained from my colleague, Peter Haslam at peter.haslam@british-energy.co.uk.

Peter Hollins

March 2001

Dynamics of the UK Energy Market

Neil Hirst, Deputy Director-General, Energy, Department of Trade & Industry

The energy agenda has changed in a most striking fashion since the 1998 White Paper. Competitive markets will remain at the core of energy policy but security and sustainability are equally important and this inevitably focuses attention on the environmental aspects of energy supply.

There are five key dynamics for the UK energy market.

- The liberalisation and integration of European energy markets. It is impossible to underestimate the importance of this. It will not be easy or quick but major change is now inescapable.
- Global warming. We were all struck by the Royal Commission on Environmental Pollution's statement that to really address global warming we must reduce UK carbon emissions by 60% by 2050, a staggering aim. In the shorter term we are moving towards the Government's own aim of a 20% reduction by 2010.
- The security issue. We have always seen security of supply as important but a series of events (the petrol crisis, events in California and to some extent in the United States generally, the European Union's focus on the issue) have brought it into the limelight. There is a question about how to finance new generating capacity and the DTI, DETR and the Treasury are working very closely together on this point.
- Developments in energy technology. Over the next decade this includes renewables but we may see transformational technologies like hydrogen and fuel cells coming into the frame in the longer term.
- The social dimension. The Government is committed to addressing the problems of fuel poverty and this will impact on other energy objectives.

Let me start with market liberalisation. The UK has had a leading role in opening up energy markets, though some Scandinavian countries would dispute whether we were unique in this. We may not have got everything right first time but we did achieve major increases in efficiency and significant price reductions. We are also witnessing a large new energy trading industry develop, a sure sign of markets opening up to competition. Many of the major players are located in London.

We are now coming up to the second round of European directives on competition and energy markets which, in effect, complete the Single Market. Progress is not as fast as some would like but is still very real. There is no doubt the Commission is looking for real separation between transmission networks and energy suppliers. It is looking for properly regulated access to networks and is expected to call for full opening of gas and electricity markets by 2005. There are painful features to this. In the last few months we have seen our own gas prices heavily influenced by Continental ones which tend to be indexed to oil. This is a rude awakening for our energy market and a clear signal that it will henceforth be very difficult to address energy policy on a solely UK basis.

Carbon is the Key

British policy on global warming is closely linked with international negotiations on climate change. Clearly, reducing the UK's carbon emissions, which account for 2% of the world's total, will not save the planet unaided but our efforts can form a part of a global effort and lay the foundation for more fundamental changes that will be needed in the years to come. We are well aware that without



Neil Hirst

Neil Hirst is Deputy Director General for Energy at the Department of Trade and Industry.

Educated at Oxford University and with an MBA from Cornell University, USA, Mr Hirst joined the civil service in 1970. He has served in the private offices of a Minister for Industry, two successive ministers for Energy, and a Secretary of State for Trade.

At the Department of Energy he has had a succession of responsibilities relating to the nuclear, oil, gas, and coal industries and has been involved in five privatisations, including leading on production of the legislation required to privatise British Coal. In 1981 he was seconded to Goldman Sachs in New York where he specialised in private finance.

Mr Hirst served as Energy Counsellor at the British Embassy in Washington DC from 1985-88.

a carbon change programme the UK's carbon emissions could actually rise after 2010. A key reason for this is, of course, the expected phasing out of most of our nuclear power stations. The Government plans to review options for longer term energy choices, considering the scale of emission reductions that might be needed for energy use and the scope and costs of low carbon and energy efficiency options that may bridge the gap.

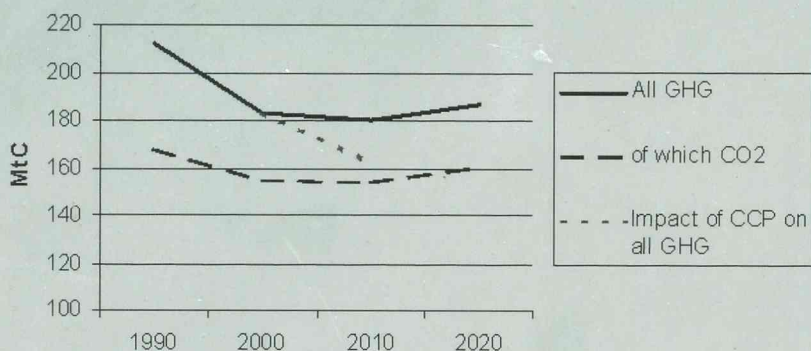
A response to the Royal Commission will also be required. Most of its scenarios for achieving a 60% reduction in carbon emissions by 2050 involve a nuclear element. The one most clearly founded on proven current technology rests to a very substantial degree on nuclear energy. The future of the industry is clearly a very important question though I wouldn't go so far as to say that its continuation is necessary or certain. Nuclear is a perfectly legitimate technology and it is open to the industry to come forward with new generation proposals.

Security of energy supply is a growing aspect of the DTI's work. Our projections show that, on present trends, a larger share of our electricity supply will derive from gas-fired generation by 2020. That is not a forecast, the key words are "on present trends", but it does focus attention on security. It is increasingly important to look at these issues on a European, indeed sometimes in a global, framework. Europe as a whole will certainly come to rely more on gas. But the IEA (International Energy Agency) estimates that natural gas reserves are more than sufficient to meet a projected 86% rise in demand up to 2020. The question is less one of physical reserves than of the effort, investment, and underlying political conditions needed to exploit them. That is where our attention should be directed.

Our programme for renewables sees them providing 10% of electricity supply by 2010 provided this can be done at acceptable economic cost. This is actually a market based approach where we will learn which renewables are most competitive (at the moment we think it likely to be wind, offshore wind and biomass). The Government

Global Warming

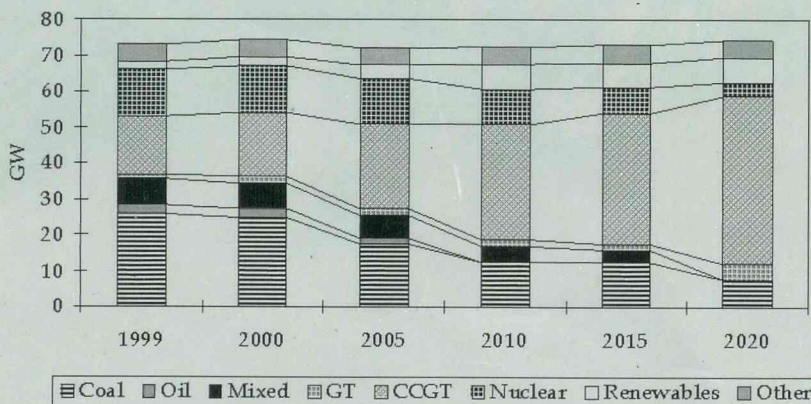
Projections of UK greenhouse gas (GHG) emissions, Mtc



Source: Climate Change Programme (CCP) DETR

Security of Supply

UK generating capacity, GW, CH scenario



Source: Energy Paper 68, DTI

has not announced further increases after 2010 but plainly this is a continuing programme. Promoting renewables is not the lowest cost way of saving carbon, at least in the short term, though that is one reason for supporting it, as is the further development of relatively new technologies and stimulating substantial new British industries.

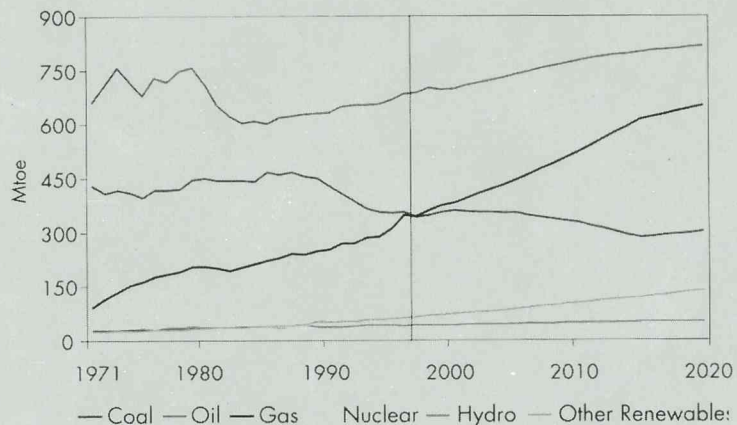
Government is sometimes compared to a super tanker that needs time to change course. There is no doubt that the tiller has already been firmly shifted and no one should underestimate the changes already underway. Aside from the Renewables Obligation, the Climate Change Levy is a big initiative with a major impact on carbon levels.

Moves towards carbon trading are in hand and I am sure will prove very important for the future. Hundreds of millions are going into new energy efficiency programmes. Network transformation should also be highlighted. This is the process of changing our electricity supply networks so that they can incorporate and co-ordinate a much greater proportion of imbedded generation. It is one of the adjustments that we need to make to increase the flexibility of our system. And the Department soon hopes to publish a consultation document on how energy R & D should be taken forward.

This seminar is entitled "A Mortgaged Future?" Question mark notwithstanding I do not believe that the future is mortgaged. There is a big difference between putting the future at risk and living in a period of dynamic change.

Security of Supply

OECD Europe total primary energy supply



UK carbon emissions could actually rise after 2010

There is a big difference between putting the future at risk and living in a period of dynamic change.

Energy Policy and Environmental Impacts

Dr Dieter Helm, Director, OXERA



Dr Dieter Helm

Dr Dieter Helm is Director of OXERA (Oxford Economic Research Associates), editor of *The Utilities Journal*, Associate Editor of the *Oxford Review of Economic Policy*, a member of the DTT's Energy Advisory Panel and Chairman of the DETR's Academic Panel. He is Fellow in Economics at New College, Oxford.

He has advised government and industry in the UK, USA, New Zealand, Japan, the Czech Republic, Hungary, Ireland, Argentina, Germany and France, and was a member of the French Government's Champsaur committee on electricity tariffs.

Dr Helm's publications include *British Energy Policy in the 1990's: The Transition to the Competitive Market*; *British Utility Regulation: Principles, Experience and Reform*; *The Assessment: Environmental Policy-Objectives, Instruments and Institutions*; *Oxford Review of Economic Policy*; *Environmental Policy: Objectives, Instruments and Implementation* (editor).

Dr Helm has presented *UK Plc*, a BBC Radio 4 series, and is currently completing a major study of British energy policy since 1979.

I want to set out some current problems in energy policy, then to discuss the environmental issues involved and draw attention to longer term issues than whether or not we happen to meet the Kyoto targets. I will conclude that we need a quite fundamental look at energy policy and, in particular, to shift its focus from competitiveness to the environment. I'm going to be pretty critical so it's only fair to add that my remarks are as much directed to the last government as to the current one.

Policy is about getting to where you want to be, not setting up a wish list. Current energy policy is a messy collection of objectives. We are, for instance, supposed to be interested in energy security and diversity of supply but nobody has thought through the nature of long term gas supply contracts. California's current troubles reveal the impact of this kind of thinking. It's convenient to blame the regulators rather than pointing to circumstances where very large companies end up being punted on the difference between a regulated and a spot price. Some people believe that prices can only go down and that we will never need any future contracting base. None of these issues were addressed - or addressed seriously - in the 1998 White Paper on energy policy.

All governments have conflicting energy policy objectives. No government ever defines the trade offs between them very clearly but we now have a set of inconsistencies sufficiently great to require a return to the drawing board.

- Protection of the coal industry is a central goal of government policy. One of the great myths is that coal has been driven out of the market by gas. Yet in 1990, and again in 1993, the coal industry was awarded contracts at higher than market prices. This was done in part to protect security of supply. But the only serious interruption to energy security have come from coal miners. Protecting coal for security of supply reasons is a very odd thing to do.
- Government policy towards the nuclear sector has been decidedly odd too. Privatisation moved liabilities into the private sector but there is no strategy for long term waste management.
- Renewables policy is really about picking winning technologies. There needn't be anything wrong with that but it's inconsistent with claims that we want market based solutions.

And, of course, all of this mustn't put energy prices up, only decrease them and the "fuel poor" must be looked after in this process.

The Price of Inconsistency

Some of these inconsistencies have led to serious biasing in carbon and climate change policy. Of course, the climate change commitment (the 12.5% carbon emissions reduction for example) doesn't scratch the surface of the problem the scientists tell us we have. If you want to deal with that we should start thinking seriously about the 60% reduction in carbon emissions proposed by the Royal Commission. Much of the 12.5% Kyoto commitment and the Government's own 20% target have been already achieved by closing down most of the coal industry. It's going to get a lot tougher after 2010 as nuclear power declines, there's little left of the coal industry to close, gas use grows and renewables struggle to meet their 10% target.

There is, of course, no evidence whatsoever that economic growth can be met by reducing energy demand. We can move from inefficient use of energy to efficient use but energy demand will march ever upwards. The only solution to the long

term problem of climate change has to be via a switch from carbon intensive fuels to carbon non-intensive ones. There has to be a substantial increase in the price of carbon if you're going to get a supply side shift. Any economic instrument or policy which fails to distinguish between the two is at best neutral in effect and probably counter productive. Whether we use permits or a carbon tax is a nicety. I happen to prefer a tax, but if we're going to try permits they must adjust prices to reflect the marginal cost of pollution.

The Climate Change Levy (CCL) could be seen as counter productive. It creates a huge amount of hostility, which in turn creates problems for negotiated agreements. It is based on the implicit assumption, never stated publicly, always privately known, that we can't have a Levy based on carbon use because that would disadvantage the coal industry. The cheapest way to reduce emissions is by reducing emissions from the power generation sector and that means targeting coal. The current CCL sends no supply side signals to develop non-carbon technologies. And because it would have fallen heavily on large industrial companies they were allowed to negotiate agreements. But you can't promote the steel, chemical and glass industries and at the same time create an instrument to change carbon emissions.

More worrying is the idea that consumers don't have to do anything about climate change - only big bad business has to address the issue. A great deal of public education is required to persuade people that they too must make their contribution to combating global warming. The hostile political reaction to VAT on domestic fuels and, of course, the needs of the coal miners, blunted the CCL and prevented it doing what it claims to do.

Cost-Efficient Carbon Reduction

Both permits and a carbon tax offer the opportunity of using the market to find the least cost solution to an environmental problem. The tougher the environmental requirements, the more the efficiency of achieving them matters because the costs are going to be very, very large and every marginal additional to them is going to be harder and harder to adapt to. All policies have price effects but some are much more inefficient than others.

Let's be honest about why people want emissions trading. A carbon tax takes the money from industry and domestic users and gives it to the Treasury. The permit system grandfathers the existing levels of pollution and only takes revenue from companies with respect to their emission reduction targets. From an industry point of view it makes sense to be in favour of emissions trading permits, provided they're grandfathered, rather than a tax. So how do you get companies to reduce emissions below the level they need to? The Government pays them to reduce pollution. That's quite an important departure.



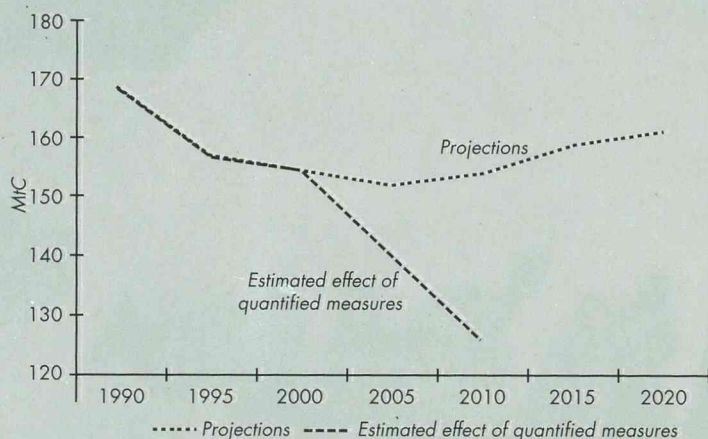
The panel in discussion with the audience

All governments have conflicting energy policy objectives but current inconsistencies require a return to the drawing board.

The Climate Change Levy is not based on carbon use because that would disadvantage the coal industry.

Projected UK CO₂ Emissions

Projections of UK greenhouse gas emissions Mtc



Source: Climate Change Programme DETR

Both permits and a carbon tax offer least cost solutions to an environmental problem.

remarkable technological progress. All sorts of technologies, such as fuel cells, are on the horizon and could supply an answer to global warming. I am profoundly ignorant about which particular technologies will deliver the goods. That is why I am passionately in favour of using markets. What I want to do is put a price on carbon via permits or a tax, and allow markets to sort out the winning technologies. But this demands the ability to test the market with a proper price for carbon emissions and that means government giving the right signals

Current energy and current climate change policy are pretty inconsistent. We need to see whether a) we're serious about climate change and b) if we are serious about it, what do we need to do with energy policy? The answer to the last question is 'rethink it' and do so on an environmental basis because everything in the modern economy ultimately derives from that foundation. Energy policy must recognise that the environment, and therefore the need to create a sustainable economy, is in the driving seat.

Of course, domestic energy prices would have to rise and we must recognise that people's ability to adapt to increases is currently very low. So we must start with a low carbon tax. That would be enough to signal that it's worth investing in R&D and new technologies over the next 10-15 years. Business people need to know that it will become very expensive to burn carbon in a decade or so. If they believe that we won't need a very high tax in the long run because the technical adjustments will have already been made. As in monetary policy it's about credibility and signalling forward. So don't worry about getting an optimal tax in the short run. Start with a small price and increase it over time, but make sure the policy commitment is a credible one.

The emissions trading scheme has been designed to fit round the CCL and other general policy constraints. The generators can't be included in the Levy despite being the cheapest source of pollution reductions because the coal industry will suffer should they reduce emissions. We can't include renewables either because their marginal cost is phenomenally expensive and an extra burden would simply persuade people to opt out. A permit system designed to meet all such constraints won't get very far. If you seriously want to bare down on CO₂ emissions start with a blank piece of paper and write a proper trading scheme.

The electricity industry has had a remarkably low rate of technical change at a time of otherwise

Lessons From Abroad?

**Malcolm Keay, Deputy Head of the Energy and Environment Programme,
Royal Institute of International Affairs**

There are no simple lessons from abroad that can be translated wholesale into UK energy policy. There are some important messages but no magic bullet. I wouldn't want that to be seen as complacency. On the contrary, there is a danger that we in Britain will see our energy policies as way ahead of the pack.

Nearly all OECD (Organisation for Economic Co-Operation and Development) countries are trying to achieve essentially the same objectives - security of supply, environmental protection and competitive energy costs. What virtually none of them do is rank these in order or say what happens if the objectives conflict. There are, of course, significant differences in their starting points. Some countries are more committed to economic liberalism than others. Some have extensive energy resources of their own and some do not. There are different institutional structure and histories. There are also factors common to all because many are global in scale. On the one hand you have the 'tions', the forces of globalisation, deregulation, privatisation, liberalisation. On the other you have the 'isms', forces like corporatism, protectionism, nationalism and possibly even environmentalism. The 'tions' are tending to win out but marked differences remain.

- There are differing approaches to the environment. Some countries, including the UK, see it very much in terms of the Kyoto targets. Others, such as the United States, have a commitment, but clearly not to those targets.
- There are different approaches to competitiveness too. Competitiveness does not necessarily mean competition. In some countries it is about building national champions and larger structures.
- There is a debate in many EU countries about security of supply.

The Limits of Environmental Rhetoric

Let's look at the differences in rather more detail, the environment first. The UK is relatively well placed on meeting the Kyoto targets up to about 2008. But this is irrelevant so far as the wider climate change issue is concerned. There is a real danger that we have substituted a target for the ultimate objective. Countries like the US and Japan are actually paying more attention to wider issues and ultimate objectives precisely because they have problems with their shorter term Kyoto targets.

There's a certain insularity in British thinking on energy and environmental issues. For instance, if you wanted to do something about global climate change, all available options were studied and had £600 million to spend would you devote it to promoting renewables in the UK? The answer, clearly, would be 'no' because it's not the most cost effective option.

There is a global reluctance to use clear price signals. Last autumn's events in Britain show that we do not want to pay higher prices for the sake of the environment. Another telling example is the recent Swiss referendum where voters defeated a proposal to subsidise renewables at the expense of other forms of energy. The Climate Change Levy's (CCL) impact on emissions is almost entirely indirect, a consequence of negotiated agreements, and to the special arrangements for renewables and CHP (Combined Heat and Power). These arrangements are complicated, government imposed and driven, bureaucratic, and prefer some technologies over others. To describe the CCL as an economic instrument is very misleading; it is essentially a form of regulation-cum-revenue raising.



Malcolm Keay

Malcolm Keay is Deputy Head of the Energy and Environment Programme at the Royal Institute for International Affairs (Chatham House), overseeing energy-related work. He was previously Senior Management Consultant at Oxford Economic Research Associates (OXERA).

Mr Keay served as Director of Energy Policy at the Department of Trade and Industry from 1996-99. He oversaw work on a government White Paper on fuel use in power generation, and participated in a number of major policy developments, including the introduction of the New Electricity Trading Arrangements (NETA).

From 1992-96 he worked at the International Energy Agency (IEA) in Paris as Head of the Energy Diversification Division. He drafted a new mission statement and, with his team, published studies of electricity regulation in the OECD, and natural gas transportation/security. From 1989-92, he was Deputy Director General of OFGAS. Mr Keay was educated at Cambridge University.



From left to right: Tom Bentley, Malcolm Keay, Neil Hirst and seminar Chairman Justin Webb.

Problems with the Kyoto targets are making countries like the US pay more attention to ultimate objectives.

There is a quite staggering gap between rhetoric and reality on fossil fuels both in Britain and abroad. The decline in nuclear generation will mean that British use of fossil fuels will increase over the next 20 years or so and this is true of the OECD as a whole, short of a quite staggering change in policy. Renewables like firewood are being increasingly replaced in the developing world by commercial fuels such as oil.

It is interesting to note that China - everyone's whipping boy when it comes to climate change - has achieved an absolute reduction in energy consumption over the last 5 years or so. Coal consumption has fallen even faster, gas and hydro output has increased and the country is gradually moving to a less carbon intensive economy. China is the one nation

moving in the direction which others say they want but are doing little to achieve.

British audience tend not to see the potential conflict between competition and competitiveness. When a number of European countries reorganised their electricity and gas industries to prepare for competition they sought to create larger units, contrary to the UK model where liberalisation involved the unbundling of the state owned gas and electricity companies. We condemn national champions but this might be because we think only in a British context. Competition should instead be seen in terms of a pan-European market, where commercial power is exercised across the Continent rather than being confined within individual countries. Larger national units might make more sense in this situation and it is worth noting that the German electricity companies have a treasure chest of around 100 billion Euros to spend on acquisitions. The UK must understand the kind of market it is in.

Dependency is the dominant theme of the European Green Paper on security of supply but this begs some very important questions. Supply problems in the UK have in fact been internally generated - consider the miners' strike or last autumn's fuel price protests. Western Europe has a low dependence on overseas energy supplies; only around 5% of its imports are in the form of energy, a proportion in decline for 20-30 years. Around 80% of oil and gas revenues earned by major exporting countries derive from sales to western markets. They are dependent on us, not the other way around. Yet the EU's Green Paper claimed that dependence on oil imports was Europe's Achilles heel and that it lacked influence on world oil markets.

Diversity of supply raises other awkward questions. Coal and nuclear are considered undesirable so two options are effectively ruled out. Oil is clearly not the fuel of choice for promoting diversity. So we are left with gas and the problems associated with it, and renewables which might not be able to generate the volumes of energy called for. Once again, all countries face essentially the same problems and suffer from the same lack of answers.

I find it very difficult to see any European country apart from France and, possibly Finland, building new nuclear plant in the present climate. 5 out of the 8 European countries with nuclear programmes have committed themselves to closure. Considerable debate on alternatives would be required before it became possible to think seriously about new build. The British debate will remain closed so long as there is no immediate suggestion of closing our nuclear plants. So we're faced with a situation where nations claim to be moving out of fossil fuels but are in fact moving deeper into them.

Chatham House is currently undertaking a study on the future of nuclear energy. It is necessary to study the option properly, not to let it go by default. A conscious decision is required about whether we are prepared to pay the cost of not having nuclear. We can do without it but how much more expensive will that course be and what practical difficulties will be involved? I'm not sure we know the answers yet.

A Californian Warning for Britain?

Recent events in California carry clear warnings for Britain. Complacent responses to the effect that the government erred in deregulating wholesale rather than retail markets miss the point. The latter course would have produced enormous price increases for consumers and caused a political crisis. Indeed, this happened in San Diego and determined California's approach to deregulation. The problem is that California's demand for energy rose by around 25% over a decade which saw little new generating capacity.

Whitehall argues that the growth in UK capacity in the 1990s arose because of market distortions - the duopoly power of PowerGen and National Power, problems with the Pool which led to excessively high prices and a capacity element in the pool pricing structure - which no longer apply. In other words, everything which stopped Britain from suffering the same fate as California has been swept away. At least California gives clear price signals to guide investors and some 10 gigawatts of new capacity are under construction. We simply don't know how Britain will cope under our new arrangements. We don't know whether these aim for low prices, competitive prices or prices that give adequate environmental signals. We are going deeper into fossil fuel consumption and abandoning market forces when it comes to CHP and renewables. In the UK, as elsewhere, trade offs are being avoided.

There is a need for a thorough review of energy policy not only in Britain but world-wide. Let us hope that the conclusion of the general election, and the sidelining of coal, will leave us in a better position to undertake one.

There is a quite staggering gap between rhetoric and reality on fossil fuel use throughout the OECD.

Everything which stopped Britain suffering the same generating problems as California has been swept away.

Exploring Public Attitudes to Energy & the Environment

Tom Bentley, Director, Demos



Tom Bentley

Tom Bentley was appointed Director of Demos in January 1999, having joined the think-tank in 1995 and been appointed a Senior Researcher in 1997. He has spent this year leading projects on young people, social exclusion and educational underachievement.

He was born and educated in the East End of London and studied Politics, Philosophy and Economics at the University of Oxford.

Mr Bentley's book, *Learning Beyond the Classroom: Education for a Changing World* (published in September 1998), was described by The Times Educational Supplement as "one of the key education books of the decade". In 1998 he acted as a part-time Special Advisor to David Blunkett at the Department for Education and Employment.

Opinion surveys provide strong evidence of a broad shift in consumer attitudes to the environment during recent years. A recent poll found a majority in 13 out of 25 countries agreeing that their own nation should focus more on social and environmental goals than on economic growth. A study by the Co-operative Bank found that, while the number of people saying that the environment was an important political issue had declined slightly during the 1990s, a growing proportion claimed to be concerned about what they could do personally on green issues. Other polls suggest that between 30% and 60% of British people are willing to change their behaviour to accommodate environmental priorities. People increasingly like to think of themselves as "ethical", and particularly "green" consumers. Some markets in ethical products are growing strongly, for example in personal financial services.

These shifts are underpinned by a deeper reorientation of basic values in industrialised societies which is consistent across countries and grows with each new generational cohort. This is reflected in changed attitudes towards the proper focus of government and politics and in a less tangible shift in culture, the informal norms and social routines which shape people's day to day behaviour. For these purposes values are defined as basic, deeply held beliefs about what matters most in people's own lives, and their resulting social and political priorities.

There has been a shift towards "post materialist" values. A product of affluence, peace and individualism, these indicate the emergence of a broad range of new priorities which move beyond basic considerations of security, stability and income. They include a stronger focus on the environment, ethics (including gender, animal welfare and so on), personal fulfilment and quality of life. The effect grows stronger in each new age cohort. "Materialists" outnumbered "post-materialists" by 4 to 1 in 1970 in countries covered by international values surveys. By 1994 the ratio had changed to 1.5 materialists for every post materialist.

The period between the 1970s and late 1990s has been characterised by another broad shift: the rapidly growing social influence of business and markets. Globalisation, intense competitive pressure, the impact of individualisation and new technologies have driven a shift towards active consumerism. As levels of education and consumer choice have risen, expectations of service and customisation have also increased, leading to greater pressure for innovation in products and services, and greater responsiveness to consumer demand.

Barriers to Behavioural Change

The evidence suggests that environmental considerations are having a deep impact on the nature of consumer markets and on public policy towards business activity. Some government policies are geared towards environmental goals (for example the Climate Change Levy), even if their actual impact is unclear.

But there is little clear evidence that such broad shifts translate into straightforward changes in behaviour. I suggest the following reasons:

- Talk is cheap: while more and more people accept the conventional wisdom on the environment their behavioural changes are less consistent.
- Environmental branding is often confusing, with a plethora of kite marks, energy efficiency scales and competing brands. Consumers think they make a positive contribution by changing product when in fact the most effective

change they could make is to simply stop, or reduce, their use of them.

- People do not always have easy access to alternatives, particularly where change requires alterations in organisational systems. This is true of energy efficiency, where help in switching appliances and insulation are needed to achieve significant cuts in domestic energy consumption.
- The evidence suggests that ethical consumerism represents one set of concerns among many, including price, convenience and habit, which determine spending and consumption patterns.

There are, however, clear pointers to how public opinion and behaviour could be changed over time.

I. General exhortations do not change specific behaviour. The campaign to increase environmental awareness ("Are you doing your bit?") may heighten perceptions but only follow through would sustain real behavioural change.

II. Campaigns have most impact when they focus on a common goal or public good, especially if they create a sense of shared responsibility and point to a direct consequence from changed behaviour. Perhaps people also need a selfish reason, such as saving money, before they alter behaviour.

III. People want easy options - if the message is that environmental responsibility means working harder, reining in spending and generally restraining preferences it is unlikely to be well received.

IV. Cumulative impact often requires public policy changes which individuals find it hard to produce. For instance, large scale recycling will only take off once taxes reflect the differing environmental impacts of different waste disposal options, thus stimulating a stronger market for recycling services.

Though between 30 and 60% of British people are willing to change their behaviour they also want easy options.

Tom Bentley addresses the seminar



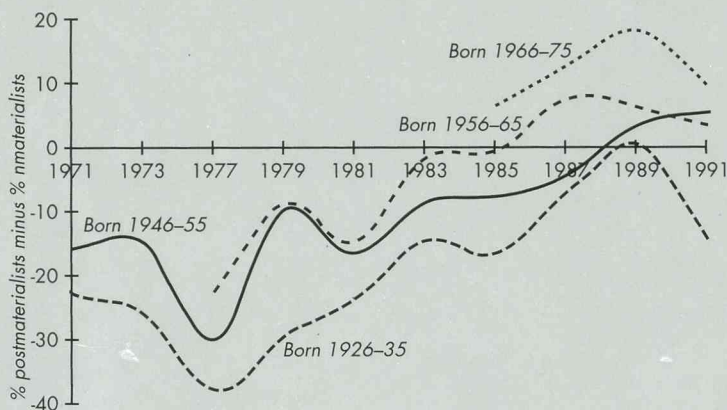
Public Policy is the Key

This analysis yields clear implications for the debate over energy supply and consumption.

- It should first be said that it is hard to find detailed information about public attitudes to the various energy supply options. This suggests that most people have no detailed opinions on the subject - a vague bias towards "green" or renewable options aside - and are unaware of the environmental impacts or consequences of different modes of supply.
- The greatest change in consumer energy markets over the last decade has been towards efficiency and economy via increased competition. Suppliers are therefore competing to provide cheap and convenient packages, rather than

DETR policy implies less energy use by the consumer. But the DTI encourages demand and the Treasury benefits.

Value Change by Age Cohort



Source: Abramson and Inglehart, 1995

ones which reflect ethical or environmental concerns.

■ The thrust of government policy in this area is confused: on one hand DETR policy implies less energy use by the average consumer. But the DTI has focused on creating competitive markets and driving down price, which encourages consumers to pay even less attention to the number of units they use. Finally, the Treasury lurks in the background, focused on maximising tax revenues from energy consumption.

■ Reducing the price of energy is likely to undermine any financial incentive to conserve or reduce usage. But simply increasing prices is unlikely to have too much effect on consumer behaviour since (in addition to the reasons set out above) demand for warmth and light is inelastic.

■ The current set of competing policy objectives seem sustainable in the medium term. But, as retail suppliers start to create niche markets and differentiated products and services, attention will probably focus on the environmental impacts of different energy options. There is no currently available scale on which to compare or assess these, and certainly no single menu for customers which reflects them. For the time being energy remains an invisible general good rather than a tangible one requiring choices between products.

Any strategy for encouraging sustained behavioural change among energy consumers would therefore have to be taken forward on a number of different levels.

- Public information and tax regimes would need to reflect the hierarchy of environmental impacts.
- General awareness would need to be converted into clear, easy choices, with pricing structures reflecting the consequences of those choices.
- Service suppliers must be able to package their offering coherently, and to link the product with their overall brand.
- Changes in behaviour would need to be reinforced by rewards, peer pressure and supplementary support (such as household tax reductions, low energy light bulbs, local forums etc).

Any such strategy would need very specific goals, and to be sustained and developed over time. A useful place to start would be to achieve clarity about the overall goals of public policy.

A Political Perspective

Martin O'Neill MP

The Secretary of State for Trade & Industry told the House of Commons last year that "The central objective of the present government's energy policy is to ensure secure, diverse and sustainable supplies of energy at competitive prices." This is concise but not very instructive. The fact is that the Government has stumbled, as governments generally do, into a policy. The starting part was its reaction to the problems faced by the coal industry in 1997. I and my colleagues on the Trade & Industry Select Committee were starting an inquiry into energy and it became convenient for the Government to respond to our report in the form of the 1998 White Paper. Now that the moratorium on building new gas-fired plant has been lifted the Government's policy, a stronger emphasis on tackling fuel poverty aside, is pretty much like that of its predecessors. Stephen Byers' statement could have been read in the Commons every year since the early 1970's. We have, however, created a completely liberalised energy market and the Government has certainly contributed to this.

Before we get complacent about our market system, we should consider the gas interconnector between Britain and Belgium. The arrangements are frankly scandalous. In the last 12 months industrial gas prices have gone up by 100%. Gas was being sold through the pipeline at 31p per thermo from Britain to Belgium when it cost 30.5p at Zeebrugge. This seems to run against the laws of economics and we are reliably informed that the EU Commission are going to report on it. I hope it's before the next general election rather than the one in 2005. There appears to be a possibility of a tougher liberalisation directive being pushed by the Swedish presidency at June's Stockholm summit. It might be that another gas interconnector could work both ways instead of the one way we have at the moment.

The gas price issue throws the Climate Change Levy (CCL) into question. Taxation was to be the lever, following a lengthy period of price reduction, to make people more energy aware and therefore energy efficient. But the CCL has one basic deficiency: it isn't a carbon tax. Had it been one it might have made it that much more attractive for business to consider the question of replacement generation capacity.

Don't Write Nuclear Off

You would find nothing whatsoever were you to look into the mind of government on the question of new nuclear build. That could have serious consequences for waste management and until we grasp that nettle I suspect there will be little enthusiasm for any replacement nuclear plant. That, in its turn, will create a shortage of skilled people with experience of commissioning and constructing nuclear stations. There will also be difficulties in recruiting graduates who will naturally wonder whether the industry has a future.

Closure of nuclear stations will have a considerable effect on generating capacity. Yet we are not going to secure renewable energy (and this is one area where the Government has a degree of commitment) on the scale that Whitehall is hoping for. Nor is gas the panacea for energy ills that it was assumed to be in the early to mid '90s. Coal is going to find it increasingly difficult to continue as a major generator in the teeth of ever tougher emissions controls. If we wish to strike a balance between coal and gas we need nuclear to create space for coal emissions because reasonably priced clean coal technology is not just round the corner (and



Martin O'Neill MP

Mr O'Neill was first elected as MP for East Stirlingshire and Clackmannan in 1979. He has held the position of Chairman of the Trade and Industry Select Committee since November 1995. Past posts include Shadow Spokesman on Scottish Affairs; Shadow Defence Spokesman; and, from 1988 until 1992, Shadow Defence Secretary. He was Shadow Minister for Energy, from 1992 until 1995.

Educated in Edinburgh, he went on to Heriot Watt University where he gained a BA degree in Economics. Before becoming an MP, he worked as a high school teacher in Edinburgh and was a social science tutor at the Open University.

As Chairman of the Trade and Industry Select Committee, Mr O'Neill has responsibility for the initiation and running of enquiries into industrial affairs. Past investigations include the privatisation of the nuclear industry, ethical trading, and electronic commerce. More recently the Committee has looked at utilities regulation, the car industry, and the Post Office.



Martin O'Neill MP addresses the seminar

I speak as an MP who still has a coal mine in his constituency).

So we keep coming back to the nuclear option. It may be the last resort, it may be the one that people don't want to talk about, yet I suspect that 4-5 years from now the prospects of new nuclear build will be better than they have been for many years. It will, however, be necessary to sort out the waste management problem.

Politicians must start addressing these issues in a more serious and methodical manner than they have done over the last decade. We will not be able to avoid the issues of the generating gap, of how to achieve cleaner emissions, while sustaining the generating capacity we need. A number of related policy areas could be better grouped than at

present. There's likely to be an unbundling of certain government departments following the general election and Whitehall's thoughts are being directed to such issues at the moment.

*The Climate Change Levy
has one basic deficiency: it
isn't a carbon tax.*

*Nuclear energy creates
space for coal emissions.
We keep coming back to the
nuclear option*

Previous British Energy Seminars

A Mortgaged Future? is the fourth in a series of seminars held by British Energy since the Spring of 1999. Summaries of each are available from Peter Inglis at peter.inglis@british-energy.com.

Tackling Climate Change: The Role of Taxes and Permits

(April 1999)

What role can economic instruments - energy taxes, carbon taxes and tradable emissions permits - play in combating climate change? Speakers included:

- Sir Crispin Tickell, former British Ambassador to the United Nations and environmental commentator on "Getting to Grips with Climate Change".
- Martin O'Neill MP, Chairman of the Select Committee on Trade and Industry Committee on "the Political Perspective".
- Phillip Ward, Director of Environment, Energy & Waste at the DETR on "Policy Development in Whitehall".
- Dr Terry Barker of Cambridge Econometrics on "The Economic Options".

Tradable Emissions Permits: The Shape of Things to Come?

(November 1999)

Permits have been advocated as a major contribution to solving the problem of greenhouse gas emissions. This seminar explored the options and weighed permits against other initiatives such as the Climate Change Levy. Speakers included:

- Michael Grubb, Director of the Energy & Environment Programme at the Royal Institute of International Affairs on "The Pros and Cons of Tradable Emissions Permits".
- Peter Agar, Deputy Director-General, CBI on "Business Views and Discussions with Government".
- Ian Coates, the DETR's Economic Adviser on Climate Change and Energy Efficiency on "The Government's Perspective".
- Peter Vis of the European Commission's Climate Change Unit on "International Attitudes and Initiatives".

Kyoto and Beyond: The Impact of Climate Change on Public Opinion and Policy

(April 2000)

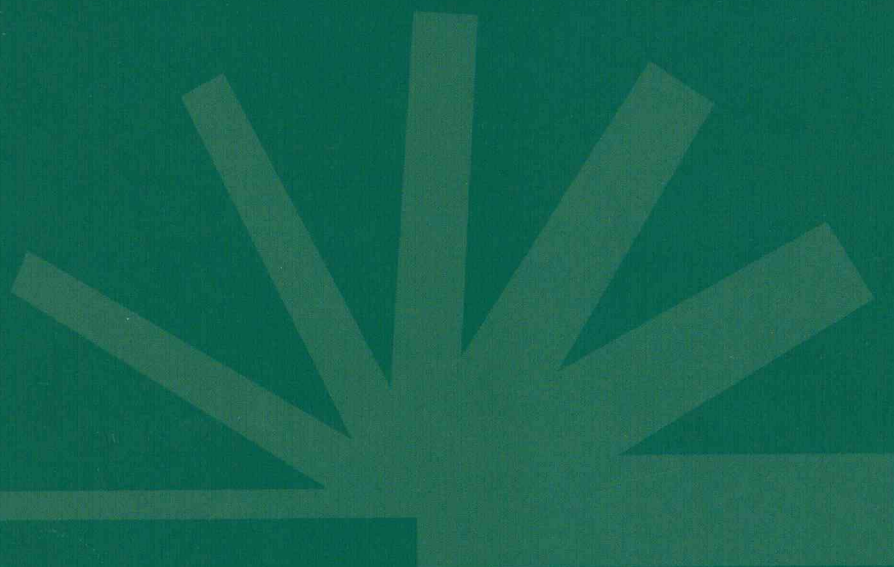
A look at the long-term implications of climate change, reviewing the need for public education as well as the role of governments. Speakers included:

- Sir John Houghton, Chairman of the Science Assessment Group of the Intergovernmental Panel on Climate Change on "The Impact of Climate Change".

-
- Tom Bentley, Director of Demos on “Changing Attitudes Amongst Decision Makers and the Public”.
 - John Gummer MP, former Secretary of State for the Environment on “What Government’s Should Do”.
 - Henry Derwent, Director, Risks and Atmosphere at the DETR on “The Government’s Approach to Climate Change”.
 - Michael Jefferson, former Director of Studies and Policy Development for the World Energy Council on “Implications for the Energy Mix”.

A member of the audience makes a point





British Energy

Published by British Energy's Government Affairs Department, 14-16 Cockspur Street, London, SW1Y 5BL.
Telephone: 020 7389 3408 Facsimile: 020 7389 3421
Website: www.british-energy.com Email: peter.haslam@british-energy.com

RESTRICTED

*Can't we
get OPEC
to bring it down
to \$25. \$28 is high.*

PRIME MINISTER

From: Oly Jones
Date: 15 June 2001

cc: Simon Virley
Jeremy Heywood
Brian Hackland
Geoffrey Norris
Jonathan Powell

FUEL PRICE UPDATE

Latest DTI figures are attached, for information.

Unleaded prices remained at about 79p/l this week, despite a fall in the 'spot' price. The oil majors have been criticised for not passing on the resulting savings to motorists. Crude remains at the top end of the OPEC target range at \$28/bl, well below last years' \$34 high, but there is little to suggest that this will fall in coming months.

Pump prices. Unleaded prices crept up this week to 79.1p/l, up 0.1p/l. The spot price (which had been rising fast in recent months and forcing up pump prices) has actually fallen by 3p/l since the middle of May. As a consequence retailers' profit margins have increased, and they have been criticised for not passing on the savings. However, as previous margins were, due to public pressure and intense competition, unprofitable, this increase actually represents a restoration of normal profit levels, which is hard to criticise. The restoration of normal margins means that the pressure previously in the system for further pump price rises may have lifted - unless spot prices rise again.

Diesel prices rose slightly to 78.3p/l - reflecting a small increase in wholesale price. Profits margins are currently normal for diesel sales.

International oil market. Crude has been sustained at \$28/bl this week, by fears over Iraq's decision to suspend oil exports in a row over sanctions, and by renewed OPEC agreement to maintain production levels. However, the impact of the Iraqi export ban upon price has been limited since other OPEC members have pledged to cover the shortfall. But, recent visits by officials to Kuwait and Saudi Arabia reinforced the view that OPEC are happy with the current price and will not increase production to trigger price reductions. This all suggests that the price of crude is unlikely to fall in the near future.

OLY JONES

Oly Jones 15/6

RESTRICTED

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

SUMMARY

- Average petrol prices again crept up, but only just; pressures for further increases have eased, with international wholesale gasoline prices falling and petrol retail margins recovering
- Average diesel prices rose a little this week

Retail Petrol and Diesel Price Changes

On 11 June, the average retail price of **unleaded petrol** was 79.1 pence per litre (p/l), a rise of 0.1 p/l compared to 4 June.¹

On 11 June, average retail **diesel prices** were 78.3 p/l, up 0.2 p/l on a week earlier.

Factors Affecting Petrol Prices

(i) *Crude Oil Market*

A larger than expected fall in US crude stocks was reported by the API on 12 June. Along with concerns over the suspension of Iraqi exports, this has put upward pressure on prices. However, the crude draw is largely attributed to a delay in tanker loadings caused by bad weather at a major crude oil import terminal in Louisiana. Although still low, US crude stocks remain above last year's levels and prices are unlikely to rise significantly over the next week.

(ii) *Wholesale Market*

Wholesale unleaded petrol prices reduced by 0.6 p/l during the week and have now fallen a total of 3.5 p/l over the past month as market concerns ease further about gasoline supply in the US.

(iii) *US Gasoline Stock Levels*

Gasoline stocks increased in the US last week, in total by some 6 million barrels to 216 million barrels. US gasoline inventories are now at their highest level since June 1999. This is easing market concern and minimising upward pressure on crude oil prices.

(iv) *Refinery Capacity*

The UK supply situation is normal.

1. Since 1 April 2001, average unleaded petrol prices collected by the DTI have related entirely to ULSP (ultra-low sulphur petrol).

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Factors Affecting Diesel Prices

International wholesale prices were almost unchanged following last week's increase.

UK Competition

Petrol retailers' margins increased by a further 0.7 p/l over the past week, since retail prices were maintained alongside the fall in wholesale prices, and are now at their highest level since the beginning of the year.

Market Sentiment

The market is more stable as international gasoline wholesale prices fall and petrol retail margins recover. There is still scope for some price volatility if there are supply disruptions in the US.

Future Market Outlook

The UK retail market is healthier, with better margins that will put less pressure on price. However, there is still potential for supply problems in the US to exert upward pressure on international wholesale gasoline prices that could lead to increased UK retail prices, until the US summer 'driving season' is fully under way.

Recent Trends in Petrol and Diesel Market Prices

To set the context of prices, crude, wholesale product and margins data are charted and discussed below. There are two versions of each chart, one putting recent experience into perspective, by showing data from the start of 2000, the other giving data from around the start of February this year. In each case, a note indicates whether the textual commentary has been updated since last week's brief. Changed or new text (under Charts 1, 3, 4, 5 and 6) is italicised.

Contacts for more information

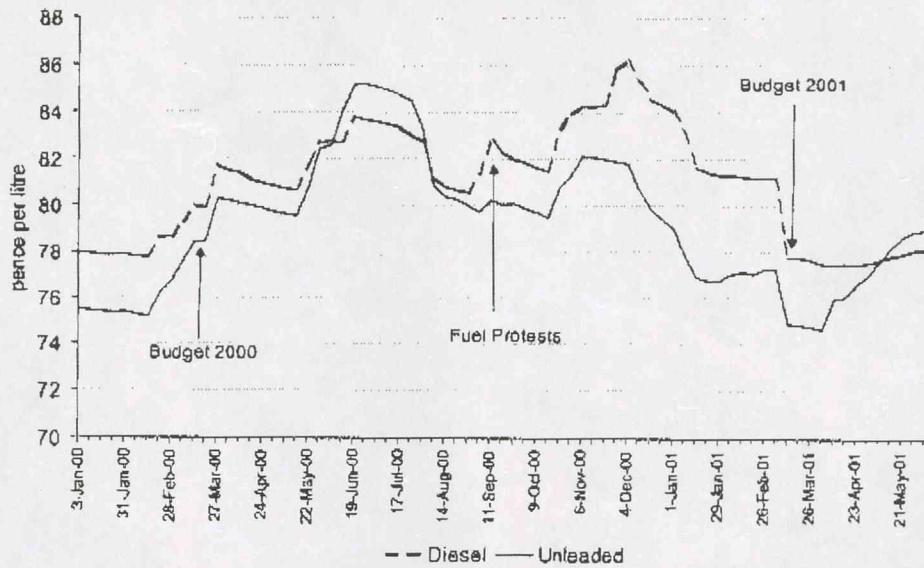
Mike Earp (020 7215 5271; Mike.Earp@dti.gsi.gov.uk)

Neil Semple (020 7215 5114; Neil.Semple@dti.gsi.gov.uk)

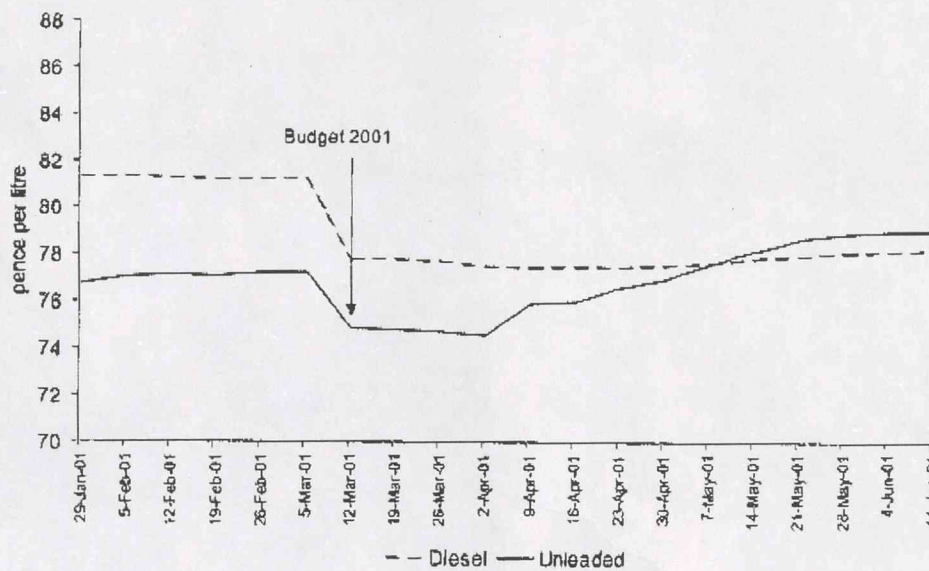
Oil and Gas Directorate, DTI, 13 June 2001

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Chart 1: UK Retail Prices - from January 2000 to now:



From February 2001 to now:



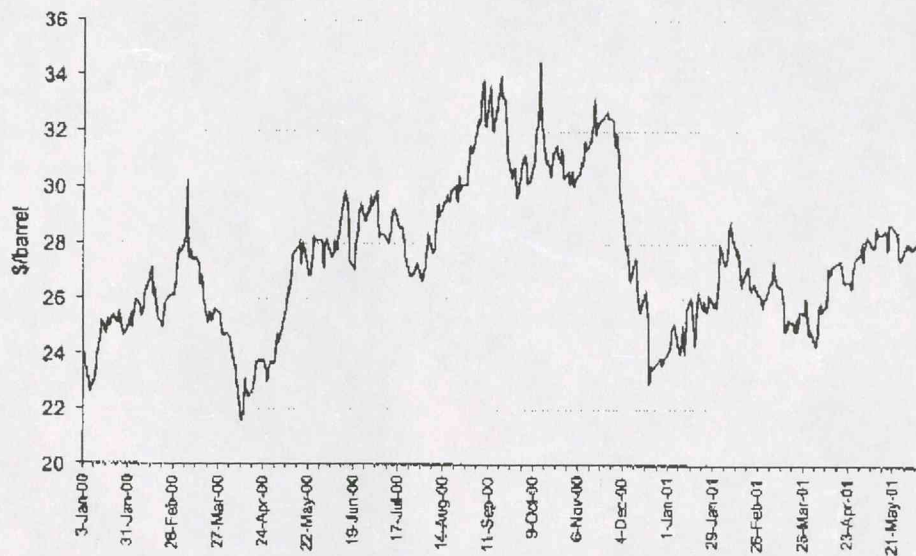
There was a petrol price spike in the early summer of 2000. At the end of June a combination of increased US gasoline demand, new US and European fuel specifications and low stocks led to price rises. Prices increased again in late October/early November 2000 mainly because of higher crude oil prices and petrol retailers attempting to recover from low margins following the fuel crisis. *From the second week in April, retail petrol prices increased mainly as a result of higher international wholesale petrol prices but in the past two weeks they have stabilised as wholesale prices have fallen and UK retail margins have recovered.*

Retail diesel prices peaked in December with the onset of peak winter demand for heating oil leading to tighter global supplies of diesel. Retail price pressure has eased now that we have moved out of winter in the northern hemisphere.

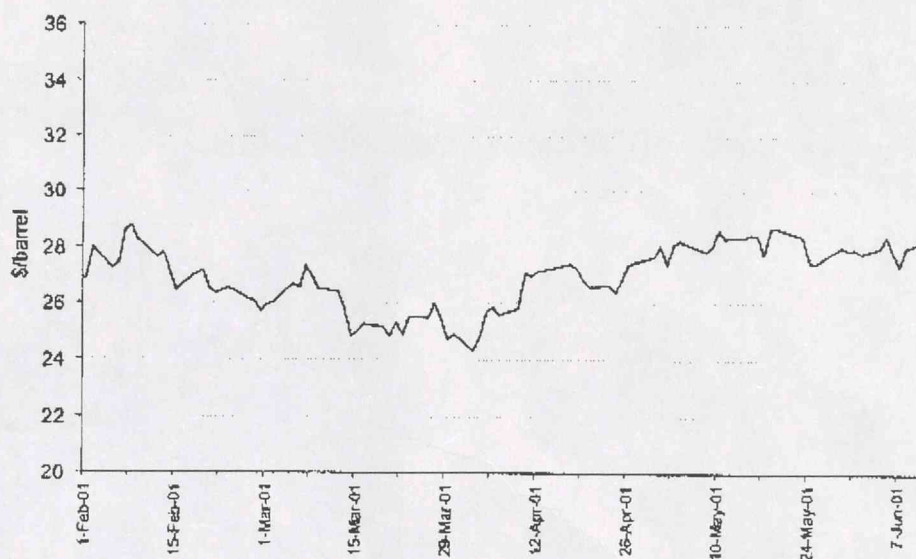
Source of data for Chart 1: company data collected by ENP Directorate, DTI

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Chart 2: Two Month Brent crude oil futures - *from January 2000 to now:*



From February 2001 to now:



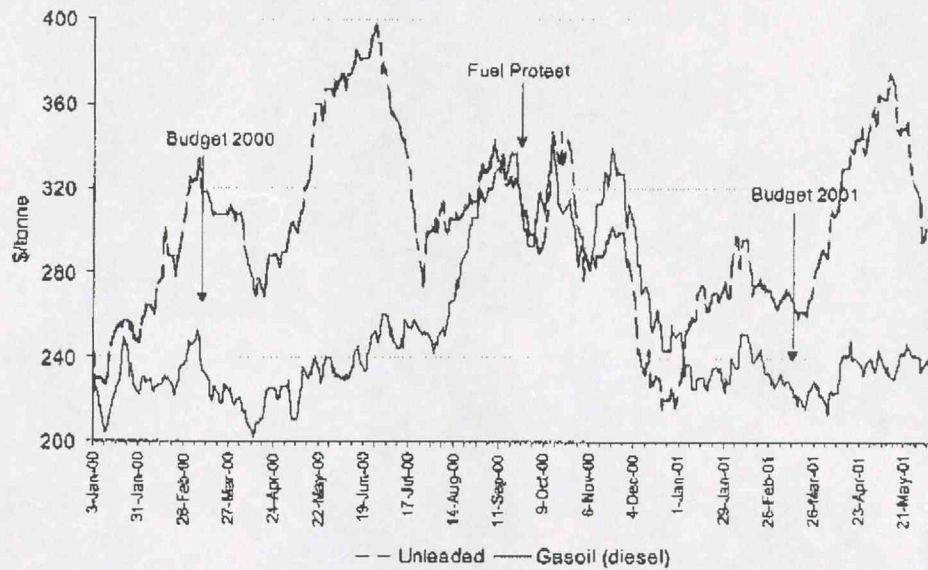
[Text below unchanged this week.]

Crude prices rose throughout 2000 driven initially by concerns over low stocks; crude oil prices were then dragged up by the product markets. As supply improved following OPEC production increases, the price fell back and is now trading in the range \$25–30/barrel. The OPEC crude basket is typically \$1.5/barrel below Brent; at present this differential is \$2.5/barrel.

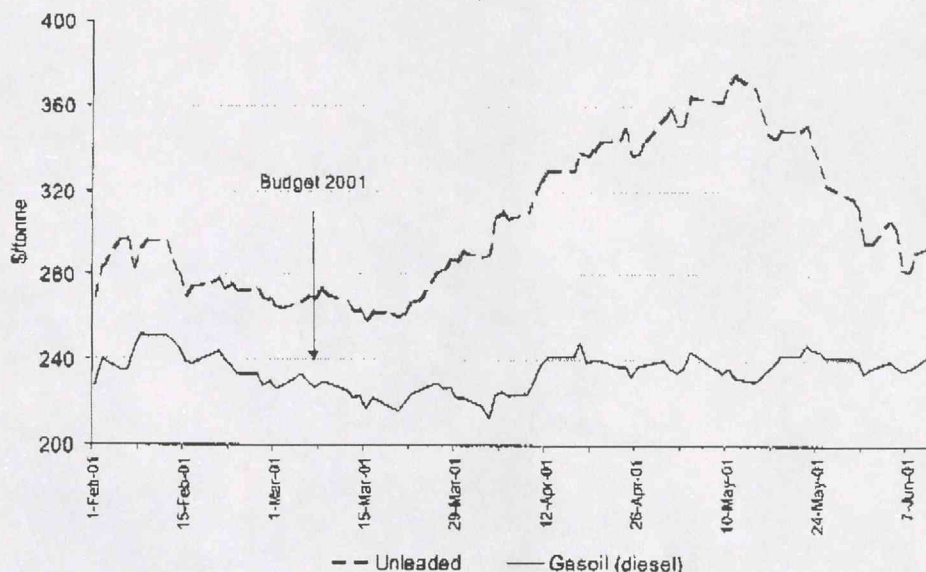
Source of data for Chart 2: International Petroleum Exchange

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Chart 3: North West Europe wholesale product prices - from January 2000 to now:



From February 2001 to now:



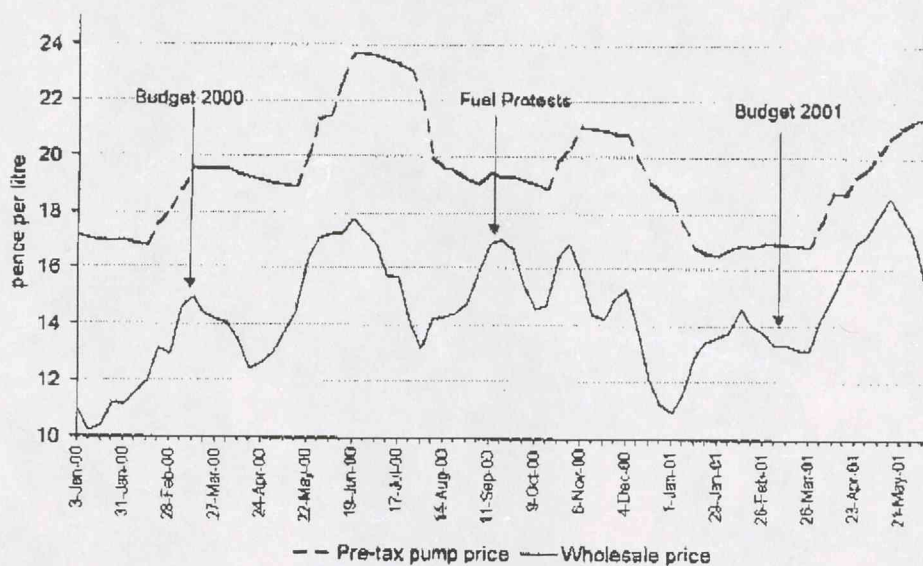
Wholesale gasoline prices rose sharply in the spring and early summer of 2000, due to low stocks in the US and difficulty in implementing the new environmental fuel specifications. UK production problems at Grangemouth also reduced supply. As the US driving season ended, and production improved, gasoline prices fell sharply and then started to track movements in crude. Prices have risen again this spring as US stocking concerns have returned, although in the absence of any further environmental specification changes the supply problems may not be as acute this year as last. *Wholesale prices have now fallen by almost 3.5 p/l during the past month.* However, there is still scope for supply problems in the US to exert upward price pressure until the US driving season is fully under way.

For diesel, the price rise in the late summer and autumn of 2000 was caused by the increase in seasonal demand and the rise in crude prices. Prices in the period January to June 2000 were relatively stable and that pattern appears to be repeating itself this year.

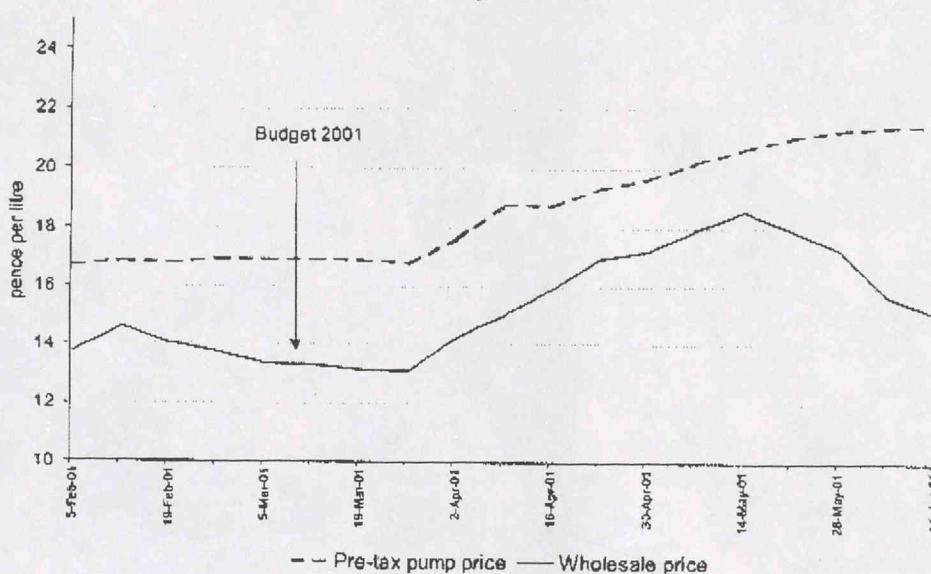
Source of data for Chart 3: Platts

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Chart 4: UK pre-tax unleaded petrol prices - from January 2000 to now:



From February 2001 to now:

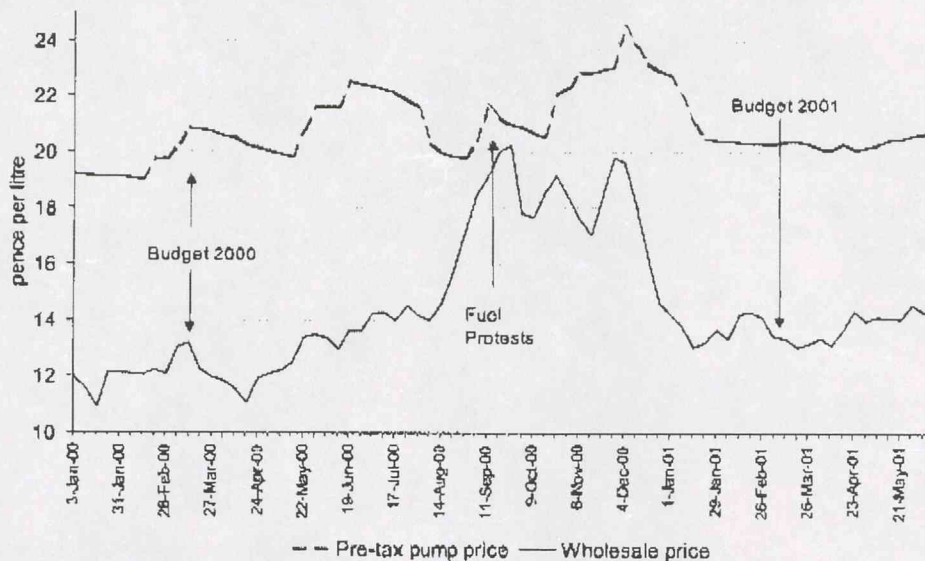


UK pre-tax retail pump prices have generally tracked Rotterdam wholesale spot prices. The gap in the two prices was at its narrowest at the time of the fuel crisis, when UK retail margins reached unsustainable levels. *Over the past month, pre-tax pump prices and wholesale prices have diverged, with retail prices rising slowly while wholesale prices have fallen.*

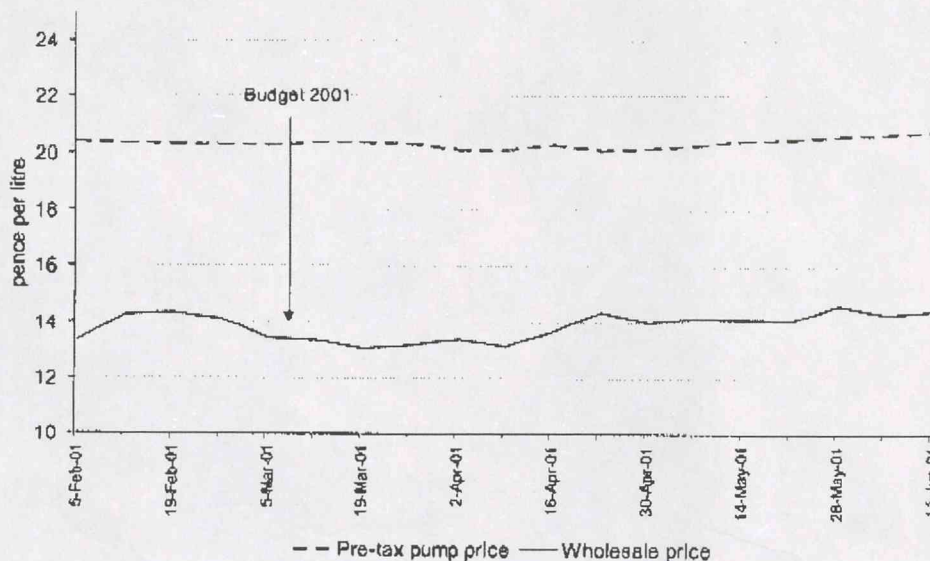
Source of data for Chart 4: Platts and company data collected by ENP Directorate, DTI

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Chart 5: UK pre-tax diesel prices - from January 2000 to now:



From February 2001 to now:

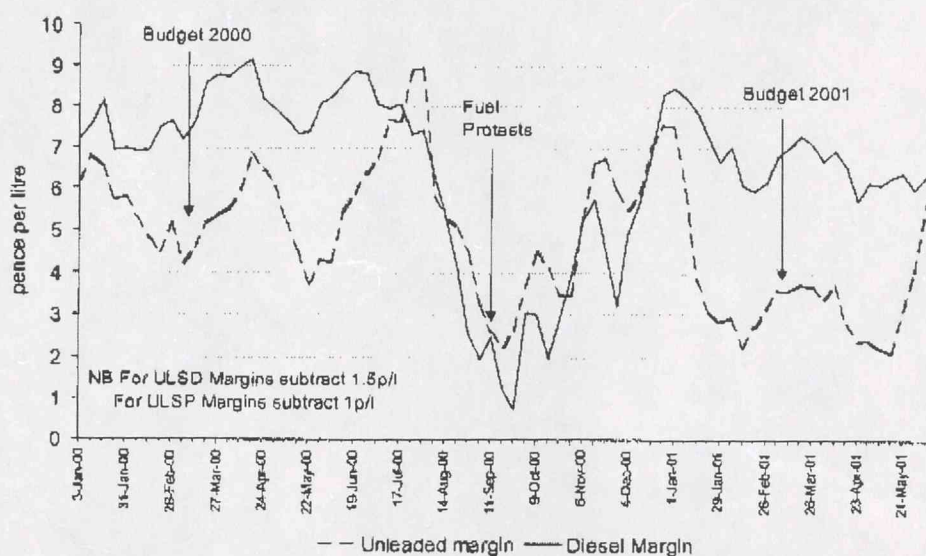


The UK pre-tax retail diesel pump price spiked in early December 2000 as a result of high crude prices and increased demand in the northern hemisphere for domestic heating oil which led to tighter diesel supplies. *The price has crept up this week after remaining virtually unchanged last week.*

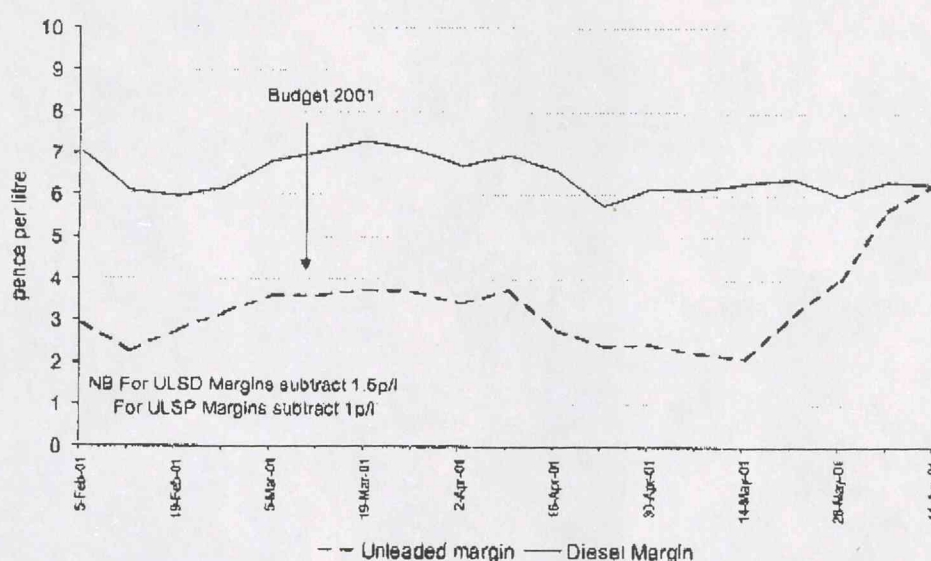
Source of data for Chart 5: Platts and company data collected by ENP Directorate, DTI

OUTLOOK FOR PETROL AND DIESEL PRICES: WEEK ENDING 15 JUNE 2001

Chart 6: UK Retail Margins - from January 2000 to now:



From February 2001 to now:



UK petrol retail margins were subject to substantial gyrations during 2000, with margins normally rising at times of price increase in the market such as the post-Budget period, the early summer and late October/early November. *Current margins of around 6.4 p/l are now well within the range of reasonable returns for most retail networks.* Retailers, depending on their site portfolio, have until recently achieved a margin of about 5–6 p/l to cover both variable and fixed costs.

Diesel margins were respectable in the first half of 2000 and then plummeted to reach a low during the fuel crisis. They then recovered as retailers tried to recover their margins and, with the onset of increased winter demand, that led to higher retail prices. *UK retail diesel margins are now at the same level as petrol margins, as the latter have recovered.*

Source of data for Chart 6: Platts and company data collected by ENP Directorate, DTI

RESTRICTED



MINISTRY OF DEFENCE
ROOM 205, OLD WAR OFFICE BUILDING
WHITEHALL LONDON SW1A 2EU

Telephone 020 721 82111/2/3
Fax: 020 721 87140
E-mail: sofs-registry1@mod.gsi.gov.uk

SECRETARY OF STATE

MO 10/18

~~Simon~~ (F)
14 June 2001
I think this is
your lead?
M.

Dear Tony,
AT
cc: SS
AW
M

GOVERNMENT PIPELINE AND STORAGE SYSTEM (GPSS)

GPSS system offers potential to hold strategic reserves of diesel and to distribute fuel securely around the country, in the event of further fuel protests. Defence requirement reducing, but range of possible uses for wider national purposes if the necessary investment can be found. Suggest officials from interested Departments study options to see if this potential is worth realising.

There is the potential to use the GPSS to store and distribute diesel. The system could have been used during last year's fuel crisis, but was not in the end actually activated.

The GPSS currently supplies aviation kerosene to the RAF and USAF, together with Heathrow, Stansted and Manchester airports. Some refineries and ports are also linked via the pipeline, which is shown on the map attached. The

The Rt Hon Tony Blair MP
Prime Minister

RESTRICTED

RESTRICTED

system is mainly fed by underground pipeline and is not therefore so susceptible to interference.

Given the need to maximise efficiency in our logistics operations, our own plans involve reducing the GPSS infrastructure to its post Cold War minimum military requirement. In terms of defence interests, as such, I need to do this quickly so that resources can be switched to areas of higher priority. However, before final decisions are taken, I have asked that we also examine its potential role for wider national purposes, particularly in support of civil emergencies. The early results of this work show that, for a one-off investment in infrastructure of around £30M and annual operating costs of some £1.3M, the GPSS could also be used to provide a strategic reserve capability for diesel fuel. In total, the system could hold 13 days of national supply of diesel. As stocks are drawn off and consumed, GPSS stocks could then be topped up by direct replenishment from the refinery to the pipeline. Stocks would be drawn off at military establishments thereby securing supplies against possible interference.

Beyond this, it would be possible to make GPSS capable of carrying petrol as well as diesel for investment of around an additional £30-70M (depending on the number of depots converted). If a greater strategic fuel reserve were needed, it would also be possible to reactivate, over a period of about three years, Salt Caverns at Plumley, which could store around 55 days worth of diesel fuel. This would cost in the order of £20-25M.

It therefore seems to me that there would be advantage in taking a wider view on the potential use of the GPSS. I am copying this to David Blunkett and Patricia Hewitt with a view to our officials taking a rapid look at the wider strategic use of the system, to see if its potential is worth realising. Assuming it is, we would need to establish how to fund the enhancements and running costs. It is not a defence requirement, but it might, I suggest, be the sort of national infrastructure project that could be financed through the Capital

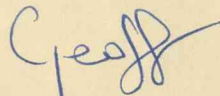
RESTRICTED

RESTRICTED

Modernisation Fund or other central mechanism. Work is currently in its early stages, but I will keep you informed.

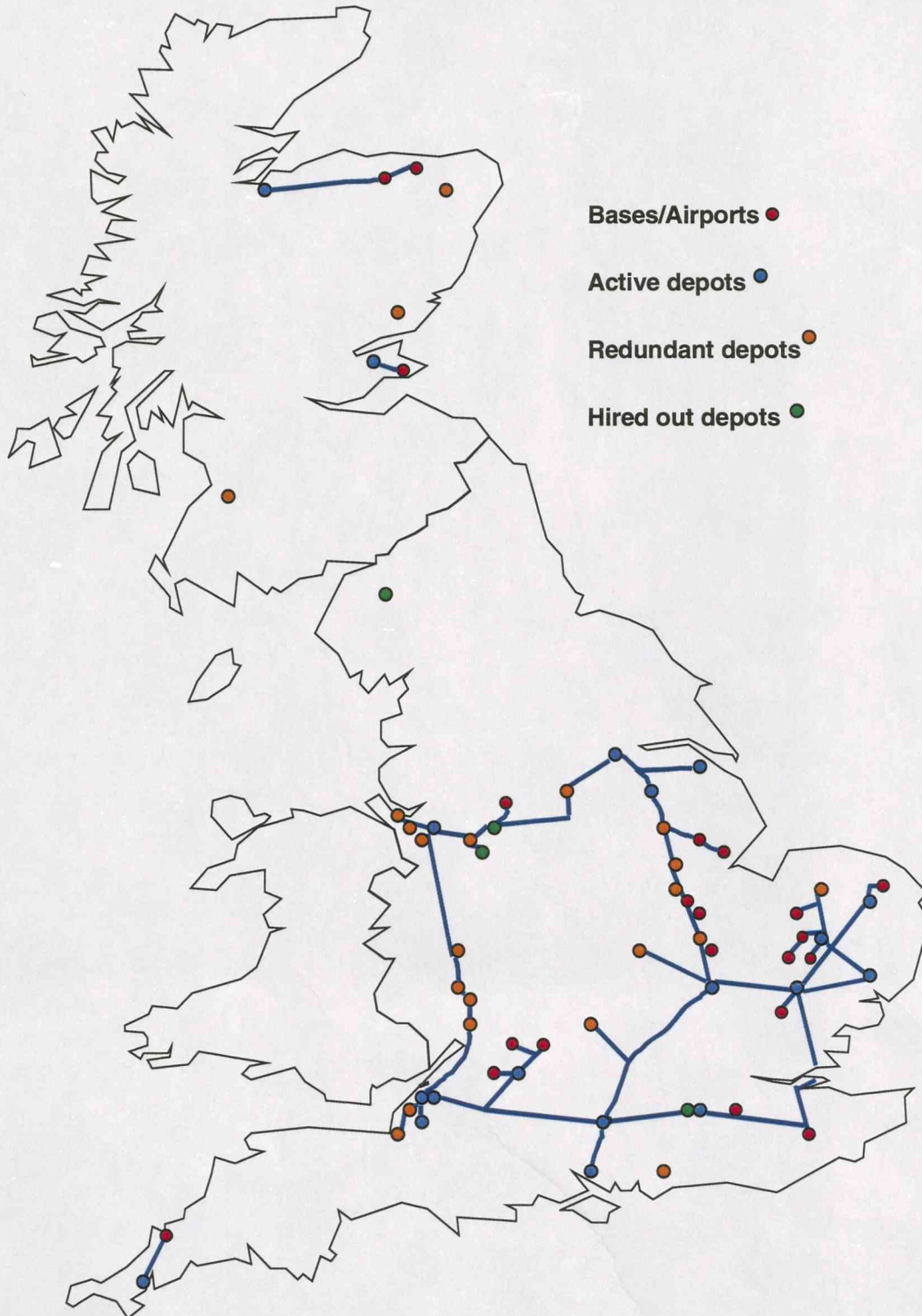
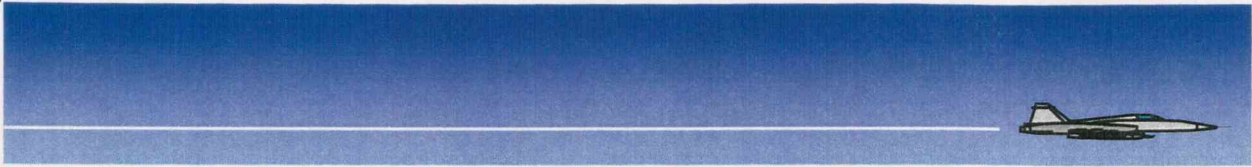
I am copying this letter to David Blunkett, Patricia Hewitt and Andrew Smith.

Yours sincerely,



GEOFFREY HOON

RESTRICTED



CONFIDENTIAL



CONFIDENTIAL