

Enterprise Innovation and Networks Committee

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Date: Thursday 9 November 2006

Venue: Committee Room 2, Senedd, Cardiff Bay

Title: Review of Energy Policy in Wales

Background

In January 2003, the Economic Development Committee published the first report of its Review of Energy Policy in Wales looking at Renewable Energy. This was followed in April 2003 with a report on Energy Efficiency.

Since this time, the Welsh Assembly Government has produced a number of documents which provide updates on developments relating to Welsh energy policy.

Copies of these documents are attached as annexes:

Annex 1	Statement on the Welsh Assembly Government's Response to the Economic Development Committee's Report on Renewable Energy (extract from the official record)	5 March 2003
Annex 2	Energy Efficiency Action Plan – Paper to EDT Committee	28 April 2004
Annex 3	Energy Route map consultation paper – Paper to EDT Committee	28 September 2005
Annex 4	EU Green Paper on Energy Efficiency – Paper to EDT Committee	11 January 2006
Annex 5	Energy Route map – Paper to EDT Committee	29 March 2006
Annex 6	Welsh Assembly Government Memorandum to UK Energy Review	3 May 2006
Annex 7	Evidence to Welsh Affairs Committee (extract from the Select Committee on Welsh Affairs Minutes of Evidence)	5 May 2006

Action

The Committee is invited to consider and comment on progress.

Chris Gwyther AM

Chair, Enterprise, Innovation & Networks Committee

Statement on the Welsh Assembly Government's Response to the Economic Development Committee's Report on Renewable Energy

The Minister for Economic Development (Andrew Davies): I welcome the opportunity to respond to the Economic Development Committee's review of energy policy in Wales. I want to record my thanks to the Committee, its Chair, members and the special adviser, Professor Jake Chapman, and congratulate them on the depth of their inquiry and their valuable contribution to the development of Welsh energy policy. The Committee made six primary recommendations, which are embodied in the vision that I set out in my statement on energy policy last week.

On carbon reduction, the Committee favours a zero carbon electricity system in the next 20 to 50 years. Last week, I gave a clear lead on this, and set an ambition to achieve a 20 per cent reduction in carbon by 2020. The development of renewable energy resources is integral to this. However, there needs to be a mixture of measures embracing energy generation, conservation, and efficiency. This is the way forward that supports our industrial base and complements our sustainable development duties.

The Committee recommends a benchmark for renewable energy production of 4 terawatt hours per year, by 2010. This is a realistic target, but we want to move on by endorsing that and building it into a 2020 benchmark, through the carbon reduction ambition that I set out last week. That would broadly equate to a renewable energy benchmark of

Y Gweinidog dros Ddatblygu Economaidd (Andrew Davies): Croesawaf y cyfle i ymateb i adolygiad y Pwyllgor Datblygu Economaidd o bolisi ynni yng Nghymru. Hoffwn gofnodi fy niolch i'r Pwyllgor, ei Gadeirydd, ei aelodau a'r ymgynghorydd arbennig, yr Athro Jake Chapman, a'u llongyfarch ar fanylder eu hymchwiliad a'u cyfraniad gwerthfawr i'r broses o ddatblygu polisi ynni yng Nghymru. Gwnaeth y Pwyllgor chwe argymhelliad sylfaenol, sydd wedi'u cynnwys yn y weledigaeth a nodais yn fy natganiad ar bolisi ynni yr wythnos diwethaf.

O ran lleihau carbon, mae'r Pwyllgor o blaid system trydan sero carbon yn ystod yr 20 i 50 mlynedd nesaf. Yr wythnos diwethaf, rhoddais arweiniad clir ar hyn, a phennais uchelgais i gyflawni gostyngiad o 20 y cant mewn carbon erbyn 2020. Mae datblygu adnoddau ynni adnewyddadwy yn hanfodol yn hyn o beth. Fodd bynnag, mae angen cymysgedd o fesurau sy'n ymgorffori cynhyrchu ynni, arbed ynni, ac effeithlonrwydd. Dyma'r ffordd ymlaen sy'n cefnogi ein sail ddiwydiannol ac yn ategu ein dyletswyddau o ran datblygu cynaliadwy.

Mae'r Pwyllgor yn argymhell meincnod o 4 awr terawat y flwyddyn erbyn 2010 ar gyfer cynhyrchu ynni adnewyddadwy. Mae'r targed hwn yn realistig, ond yr ydym am symud ymlaen drwy gymeradwyo hynny a'i gynnwys o fewn meincnod 2020, drwy'r uchelgais i leihau carbon a nodwyd gennyf yr wythnos diwethaf. Byddai hynny yn fras yn gyfwerth â

about 7 TWh for electricity production for 2020. The use of wind power replacing electricity generation from older, unmodernised coal fuel stations will take us a considerable way towards meeting our carbon dioxide reduction targets.

Renewable energy offers economic development opportunities in urban and rural areas. I am confident that this can be done in a way that protects environmentally sensitive areas and important tourist destinations. I have asked the Wales Tourist Board to consider how it could assist in assessing the effects of renewable energy and, particularly, windfarms on tourism. I want as many projects as possible to proceed, with the full involvement of the local community.

Working with our partners will be an essential component in the progress of renewable energy policy in Wales. This partnership approach is exemplified through the workings of the technical advice note 8 group. That group is facilitating work to consider the spatial implications of renewable energy technologies and providing planning advice on various technologies requiring different approaches. We will set high standards and encourage best practice and exemplar projects.

In the short term, onshore and offshore wind power are the technologies most likely to contribute. We are exploring options for repowering existing windfarms, and will hold a seminar later this month to consider this in greater depth. The two offshore windfarms off north Wales have received approval. At North Hoyle, 80 per cent of the

meincnod ynni adnewyddadwy o tua 7 TWh ar gyfer cynhyrchu trydan ar gyfer 2020. Bydd defnyddio ynni gwynt i ddisodli'r broses o gynhyrchu trydan o orsafoedd tanwydd glo hyn, nas moderneiddiwyd, o gymorth sylweddol i gyflawni ein targedau lleihau carbon deuocsid.

Mae ynni adnewyddadwy yn cynnig cyfleoedd datblygu economaidd mewn ardaloedd trefol a gwledig. Yr wyf yn hyderus y gellir gwneud hyn mewn ffordd sy'n diogelu ardaloedd amgylcheddol sensitif a chyrchfannau pwysig i dwristiaid. Yr wyf wedi gofyn i Fwrdd Croeso Cymru ystyried sut y gallai helpu wrth asesu effeithiau ynni adnewyddadwy, a ffermydd gwynt yn arbennig, ar dwristiaeth. Yr wyf am i gymaint o brosiectau â phosibl fynd rhagddynt, gan gynnwys y gymuned leol yn llawn.

Bydd gweithio gyda'n partneriaid yn elfen hanfodol wrth ddatblygu polisi ynni adnewyddadwy yng Nghymru. Ceir enghraifft o'r ymagwedd bartneriaeth hon yng ngwaith grwp nodyn cyngor technegol 8. Mae'r grwp hwnnw yn hwyluso gwaith i ystyried goblygiadau gofodol technolegau ynni adnewyddadwy ac yn darparu cyngor cynllunio ar amrywiol dechnolegau lle y mae angen ymagweddau gwahanol. Byddwn yn gosod safonau uchel ac yn annog arfer gorau a phrosiectau enghreifftiol.

Yn y tymor byr, pwer y gwynt ar y tir ac o'r lan sy'n fwyaf tebygol o gyfrannu. Yr ydym yn archwilio opsiynau ar gyfer ailweithredu ffermydd gwynt sy'n bodoli eisoes, a byddwn yn cynnal seminar yn ddiweddarach yn y mis i ystyried hyn yn fanylach. Mae'r ddwy fferm wynt alltraeth oddi ar arfordir y Gogledd wedi'u cymeradwyo. Yn North Hoyle,

onshore works have been completed. It is in line to be completed on schedule and begin operating from October 2003. The Rhyl Flats site is likely to proceed with a slightly longer timescale, although it has received consent, and the Scarweather Sands project, in the Bristol channel, will be determined by the Assembly.

Future offshore generation is an exciting new area of development. We are working with the UK Government and hope that further strategic areas off the Welsh coast can be considered. Between 2010 and 2020, tidal stream, photovoltaic, biomass and, perhaps, wave, are expected to begin to make significant contributions. Biomass has the potential to be of interest to Wales, but is currently an area of market uncertainty. We are investigating prospects and already some biomass projects are being progressed with Objective 1 support. The Forestry Commission's biomass capital grant scheme, partly funded by Objective 1, will, I hope, be a catalyst in this process. I am hopeful that structural funds will be used effectively to stimulate a wide range of renewable developments. Tidal stream, tidal barrage and wave power have considerable potential for Wales. A number of technologies are being supported, including the Pembrokeshire project by Tidal Hydraulic Generators Ltd. There is a real potential to attract this formative range of tidal technologies to Wales. A number of developers are showing interest and the implementation of the Assembly Government's innovation action plan 'Wales for Innovation', which I launched yesterday, will also help to support new technologies in the energy sector. We are working with the WDA to bring together the best ideas from the private and

cwblhawyd 80 y cant o'r gwaith ar y tir. Disgwylir i'r gwaith gael ei gwblhau yn unol â'r amserlen ac y bydd yn dechrau gweithredu o fis Hydref 2003. Mae safle Fflatiau y Rhyl yn debygol o gymryd yn hirach, er iddo dderbyn caniatâd, a'r Cynulliad fydd yn penderfynu ar brosiect Scarweather Sands, ym môr Hafren.

Mae cynhyrchu ynni alltraeth yn y dyfodol yn faes newydd a chyffrous i'w ddatblygu. Yr ydym yn gweithio gyda Llywodraeth y DU a'r gobraith yw y gellir ystyried ardaloedd strategol pellach oddi ar arfordir Cymru. Rhwng 2010 a 2020, disgwylir i dechnolegau ffrwd llanw, ffotofoltaidd, bio-màs ac, efallai, tonnau, ddechrau cyfrannu'n sylweddol. Gallai bio-màs fod o ddiddordeb i Gymru, ond ar hyn o bryd mae'n faes o ansicrwydd yn y farchnad. Yr ydym yn ymchwilio i gyfleoedd ac mae rhai prosiectau bio-màs eisoes ar waith gyda chymorth Amcan 1. Gobeithiaf y bydd cynllun grant cyfalaf y Comisiwn Coedwigaeth, a ariennir yn rhannol gan Amcan 1, yn gatalydd yn y broses hon. Yr wyf yn obeithiol y caiff cronfeydd strwythurol eu defnyddio'n effeithiol i ysgogi amrywiaeth eang o ddatblygiadau adnewyddadwy. Mae gan bwer ffrwd llanw, morgloddiau llanw a phwer y tonnau gryn botensial i Gymru. Cefnogir nifer o dechnolegau, gan gynnwys prosiect Sir Benfro gan Tidal Hydraulic Generators Ltd. Mae potensial gwirioneddol i ddenu'r amrywiaeth ffurfiannol o dechnolegau llanw hyn i Gymru. Mae nifer o ddatblygwyr yn dangos diddordeb a bydd gweithredu cynllun gweithredu arloesedd Llywodraeth y Cynulliad 'Cymru o Blaid Arloesi', a lanswyd gennyf ddoe, hefyd yn helpu i gefnogi technolegau newydd yn y sector ynni. Yr ydym yn gweithio gyda'r WDA i ddod â'r syniadau gorau o'r sector

academic sectors.

In the longer term, special projects such as the Severn barrage may have tremendous potential. Barrages have environmental and economic implications and we see value in further studies. I will continue to press the importance of this on the Minister of State for Energy and Construction. Also in the longer term, energy systems based on fuel cells powered by hydrogen look attractive. Research and development opportunities are already becoming evident in Wales, and we will continue to consider carefully every opportunity to put Wales in the forefront of hydrogen energy developments. The Committee has recommended developing the use of green energy in the Assembly estate and by other agencies and public bodies. The latest figures indicate that a 100 per cent green supply at Cathays park and Cardiff bay represents over 75 per cent of the National Assembly for Wales's total electricity consumption. We will assess the feasibility of procuring clean electricity supply throughout the rest of the estate. The National Assembly for Wales has also developed a greening operations policy and action plan, which incorporates targets for reducing energy consumption. This will form the basis of an environmental management system, which will be accredited to a recognised standard. Although initially targeting the main buildings in Cardiff, we aim to roll out the EMS to other buildings in the estate where appropriate.

The Committee has recognised the association between renewable energy development and infrastructure strengthening. This is a key issue for the future development of distributed generation through

preifat a'r sector academaidd ynghyd.

Yn y tymor hwy, gallai fod i brosiectau arbennig fel morglawdd Hafren botensial enfawr. Mae gan forgloddiau oblygiadau amgylcheddol ac economaidd a gwelwn werth astudiaethau pellach. Parhaf i bwysleisio pwysigrwydd hyn i'r Gweinidog Gwladol dros Ynni ac Adeiladu. Hefyd yn y tymor hwy, mae systemau ynni yn seiliedig ar gellau tanwydd a yrrir gan hydrogen yn opsiwn deniadol. Mae cyfleoedd ymchwil a datblygu eisoes yn dod i'r amlwg yng Nghymru, a byddwn yn parhau i ystyried pob cyfle yn ofalus i sicrhau bod Cymru ar flaen y gad o ran datblygiadau ynni hydrogen. Mae'r Pwyllgor wedi argymhell y dylid datblygu'r defnydd o ynni gwyrdd yn ystad y Cynulliad a chan asiantaethau a chyrrff cyhoeddus eraill. Noda'r ffigurau diweddaraf fod cyflenwad sy'n wyrdd 100 y cant ym Mharc Cathays a bae Caerdydd yn cynrychioli dros 75 y cant o gyfanswm defnydd trydan Cynulliad Cenedlaethol Cymru. Byddwn yn asesu dichonoldeb caffael cyflenwad trydan glân drwy weddill yr ystad. Mae Cynulliad Cenedlaethol Cymru hefyd wedi datblygu polisi a chynllun gweithredu gwyrddhau, sy'n cynnwys targedau ar gyfer lleihau'r defnydd o ynni. Bydd hyn yn sail i system rheoli amgylcheddol, a achredir i safon gydnabyddedig. Er mai targedu'r prif adeiladau yng Nghaerdydd a wnawn i ddechrau, ein nod yw cyflwyno'r system rheoli amgylcheddol i adeiladau eraill yn yr ystad lle y bo'n briodol.

Mae'r Pwyllgor wedi cydnabod y cysylltiad rhwng datblygu ynni adnewyddadwy ac atgyfnerthu seilwaith. Mae hwn yn fater allweddol ar gyfer datblygu cynhyrchu a ddsbarthwyd drwy ffynonellau

renewable sources. It is one of a range of issues that has been conveyed to me in the many meetings that the First Minister and I have held with senior industry representatives. It is also an issue that I have raised with the UK energy Minister, and I will continue to do so. The energy White Paper sets out a number of actions being taken by OFGEM to help distributed generation, and we will of course be involved in these. We are talking with infrastructure providers and with the distribution network companies in Wales and OFGEM to establish a way forward. As part of this work, we are making a baseline assessment of the electricity infrastructures in Wales and their ability to accommodate increased levels of distributed generation. The Assembly Government shares the Committee's views on the importance of planning, and sees advantages in holding the powers within electricity legislation to determine large-scale energy generation projects. You will know it is also an issue on which I have given evidence to the Richard commission. We shall continue to press that it is anomalous that such powers are not within the Assembly, and we hope that the UK Government will share this view.

Looking forward, we are arranging a second Wales energy summit to discuss strategic energy policy issues with the industry. Using the outcome from this, the Economic Development Committee's excellent work, and our continuing dialogue with our partners, we are drawing up an action plan to implement our new energy policies. I assure the Assembly that our objective is to keep Wales at the forefront of renewable developments in energy production and in creating a new mainstream industrial sector.

adnewyddadwy yn y dyfodol. Mae'n un o blith amrywiaeth o faterion a gyflewyr imi yn y cyfarfodydd niferus a gynhaliwyd rhyngof fi a'r Prif Weinidog ac uwch gynrychiolwyr y diwydiant. Mae hefyd yn fater a godais gyda Gweinidog ynni'r DU, ac fe barhaf i wneud hynny. Noda'r Papur Gwyn ar ynni nifer o gamau gweithredu a gymerir gan OFGEM i hwyluso cynhyrchu a ddosbarthwyd, a byddwn wrth gwrs yn gysylltiedig â'r rhain. Yr ydym yn trafod gyda darparwyr seilwaith a chyda chwmnïau'r rhwydwaith dosbarthu yng Nghymru ac OFGEM i bennu'r ffordd ymlaen. Fel rhan o'r gwaith hwn, yr ydym yn cynnal asesiad gwaelodlin o'r seilweithiau trydan yng Nghymru a'u gallu i ymdopi â lefelau cynyddol o gynhyrchu a ddosbarthwyd. Mae Llywodraeth y Cynulliad yn cytuno â barn y Pwyllgor ar bwysigrwydd cynllunio, ac yn gweld manteision cadw'r pwerau o fewn deddfwriaeth trydan i wneud penderfyniadau ar brosiectau cynhyrchu ynni mawr. Byddwch hefyd yn ymwybodol imi roi tystiolaeth i gomisiwn Richard ar y mater hwn. Byddwn yn parhau i bwysleisio ei bod yn anghyson nad oes gan y Cynulliad bwerau o'r fath, a gobeithiwn y bydd Llywodraeth y DU o'r un farn.

Gan edrych ymlaen, yr ydym yn trefnu ail uwch-gynhadledd ynni yng Nghymru i drafod materion polisi ynni strategol gyda'r diwydiant. Gan ddefnyddio'r canlyniad a ddaw o hyn, gwaith ardderchog y Pwyllgor Datblygu Economaidd, a'n trafodaethau parhaus gyda'n partneriaid, yr ydym yn llunio cynllun gweithredu i roi ein polisïau ynni newydd ar waith. Gallaf sicrhau'r Cynulliad mai cadw Cymru ar flaen y gad o ran datblygiadau adnewyddadwy ym maes cynhyrchu ynni a chreu sector diwydiannol prif

ffrwd newydd yw ein nod.

3.30 p.m.

Phil Williams: Your statement has made me a happy person. It was this issue, more than any other, that brought me back into active politics. Your statement clears any problems that I may have with my conscience when I return to my scientific career in May. I enthusiastically welcome the fact that you have not only endorsed the Committee's benchmark of 4 TWh, but have also set a benchmark of 7 TWh by 2020. I cannot resist adding that Plaid Cymru set the target of 4 TWh in 1992 for this decade. However, this is a genuine all-party policy development that shows inclusivity at its best.

I will not list all the sentences with which I agree; I will merely ask a few brief questions. You mentioned Objective 1 in connection with biomass. There is over £80 million of grant available for clean energy and energy infrastructure and, so far, these funds are under-committed. What plans are in the pipeline to ensure that we use these funds efficiently to implement the policy? I welcome your commitment to a range of renewable technologies. In planning renewable energy with public support, it is essential that we deploy the full range in the most appropriate locations. We expect technical advice note 8 in the near future, which will largely deal with wind energy. Will you press the Minister for Environment to start the planning work on the new technologies that will be implemented after 2010?

I welcome your reference to fuel cells powered by hydrogen. As fuel cells

Phil Williams: Mae eich datganiad wedi fy mhlesio'n fawr. Y mater hwn, yn fwy nag unrhyw fater arall, a'm denodd yn ôl i wleidyddiaeth. Mae eich datganiad yn ateb unrhyw broblemau a allai fod gennyf o ran fy nghydwybod pan ddychwelaf i'm gyrfa wyddonol ym mis Mai. Croesawaf yn frwd y ffaith ichi nid yn unig gymeradwyo meincnod 4 TWh y Pwyllgor, ond ichi hefyd bennu meincnod o 7 TWh erbyn 2020. Ni allaf beidio ag ychwanegu bod Plaid Cymru wedi pennu'r targed o 4 TWh yn 1992 ar gyfer y degawd hwn. Fodd bynnag, dyma enghraifft wirioneddol o ddatblygu polisi yn drawsbleidiol sy'n dangos cynwysoldeb ar ei orau.

Ni restraf yr holl frawddegau y cytunaf â hwy; yn hytrach gofynnaf rai cwestiynau byr. Bu ichi grybwyll Amcan 1 mewn perthynas â bio-màs. Mae grant gwerth dros £80 miliwn ar gael ar gyfer ynni glân a seilwaith ynni ac, hyd yma, nid yw'r holl arian hwn wedi'i ymrwymo. Pa gynlluniau sydd ar y gweill i sicrhau y defnyddiwn yr arian hwn yn effeithlon i weithredu'r polisi? Croesawaf eich ymrwymiad i amrywiaeth o dechnolegau adnewyddadwy. Wrth gynllunio ynni adnewyddadwy gyda chefnogaeth y cyhoedd, mae'n hanfodol inni ddefnyddio'r amrywiaeth llawn yn y lleoliadau mwyaf priodol. Disgwyliwn nodyn cyngor technegol 8 yn y dyfodol agos, a fydd yn ymdrin yn bennaf ag ynni'r gwynt. A roddwch bwysau ar y Gweinidog dros yr Amgylchedd i ddechrau ar y gwaith cynllunio ar y technolegau newydd a weithredir ar ôl 2010?

Croesawaf eich cyfeiriad at gellau tanwydd a yrrir gan hydrogen. Gan

were invented in Swansea, and as Ford is at the forefront of introducing fuel cell engines, have you held discussions with Ford management in the Welsh automotive forum, in the hope that Wales can have a just and large share of this new technology? I have two other brief questions. We have always stressed that conservation of energy is as important as renewable generation. You mentioned the roll-out of the environmental management system to public sector buildings. Have you held discussions with the Minister for Environment and the Minister responsible for housing to see how soon it will be practical to apply the Building Research Establishment environmental assessment method excellence standards to all new public sector buildings? Finally, I welcome the commitment to conducting research into new technologies, such as those included in the innovation action plan. The basic economic importance of energy in itself and as a contributor to regional economic development is great, so will you press for an appropriate earmarked budget to support co-ordinated research in the new technologies, which could be so important to the economic regeneration of Wales?

Andrew Davies: I never thought that I would stand at the rostrum and hear you say that I have helped clear your conscience. As I said when you first announced that you would not stand for re-election, you will be a great loss to the Assembly. You have made an immense contribution to the Committee's policy development on this. Your grasp of the technicalities of the field and your commitment shine through in the Committee's report.

mai yn Abertawe y dyfeisiwyd celloedd tanwydd, a chan fod Ford ar flaen y gad o ran cyflwyno injans celloedd tanwydd, a gynaliasoch drafodaethau gyda rheolwyr Ford yn fforwm moduron Cymru, yn y gobaith y gall Cymru sicrhau cyfran deg a mawr o'r dechnoleg newydd hon? Mae gennyf ddau gwestiwn byr arall. Yr ydym bob amser wedi pwysleisio bod arbed ynni yr un mor bwysig â chynhyrchu ynni adnewyddadwy. Soniasoch am gyflwyno'r system rheoli amgylcheddol i adeiladau yn y sector cyhoeddus. A gynaliasoch drafodaethau gyda'r Gweinidog dros yr Amgylchedd a'r Gweinidog sy'n gyfrifol am dai i weld pa mor gyflym y bydd yn ymarferol cymhwysio safonau rhagoriaeth dull asesu amgylcheddol y Sefydliad Ymchwil Adeiladu i bob adeilad newydd yn y sector cyhoeddus? I gloi, croesawaf yr ymrwymiad i gynnal ymchwil i dechnolegau newydd, megis y rheini a gynhwyswyd yn y cynllun gweithredu arloesedd. Mae pwysigrwydd economaidd sylfaenol ynni ynddo'i hun ac fel elfen sy'n cyfrannu at ddatblygu economaidd rhanbarthol yn sylweddol, felly a bwyswch am gyllideb briodol wedi'i chlustnodi i gefnogi ymchwil wedi'i chydlynu i'r technolegau newydd, a allai fod mor bwysig i adfywiad economaidd Cymru?

Andrew Davies: Ni feddyliais erioed y byddwn yma o flaen y darllenfwrdd ac yn eich clywed yn dweud fy mod wedi helpu i glirio eich cydwybod. Fel y dywedais pan gyhoeddasoch gyntaf na fyddech yn sefyll i gael eich ailethol, byddwch yn golled fawr i'r Cynulliad. Gwnaethoch gyfraniad aruthrol i waith y Pwyllgor wrth ddatblygu polisi ar hyn. Mae eich meistrolaeth ar elfennau technegol y maes a'ch ymrwymiad yn amlwg yn adroddiad y Pwyllgor.

On Objective 1, it is no secret that there has been a lack of response to the priority and measure to which you referred. However, some projects are underway. A large regional bid has received a formal grant offer of just under £3.6 million, in support of a low carbon partnership proposal. I have asked officials and the Welsh European Funding Office to consider potential projects that may benefit from Objective 1 funding. There is evidence that that is beginning to bear fruit, and that projects will be coming forward.

On TAN 8, I am discussing with Sue Essex the implications for other energy-production technologies. I will double-check with Sue where we are with TAN 8 in terms of planning other than windfarm developments. On fuel cells, you are right that the automotive sector in particular sees a huge opportunity here. I have discussed this with the Welsh Development Agency, and particularly with the Welsh automotive forum. This was also raised at an Accelerate Wales dinner at which I spoke a few months ago. A huge amount of work is being done in this area, both within the WDA, in academia and in the automotive industry.

Conservation and the rolling out of EMS has been discussed at official level, but I will need to get back to you on the points about housing standards and apply them to other public buildings. Your suggestion of an earmarked budget for research and development is interesting. I will consider the possibilities of that in the context of the Wales for Innovation action plan. We will consider whether there would be any advantages in pursuing that.

Brian Gibbons: This international

O ran Amcan 1, nid yw'n gyfrinach y bu diffyg ymateb i'r flaenoriaeth a'r mesur y cyfeiriasoch atynt. Fodd bynnag, mae rhai prosiectau yn mynd rhagddynt. Derbyniodd cais rhanbarthol mawr gynnig grant ffurfiol o ychydig o dan £3.6 miliwn, i gefnogi cynnig partneriaeth carbon isel. Yr wyf wedi gofyn i swyddogion a Swyddfa Cyllid Ewropeaidd Cymru ystyried prosiectau posibl a allai elwa ar arian Amcan 1. Ceir tystiolaeth bod hynny yn dechrau dwyn ffrwyth, ac y caiff prosiectau eu cyflwyno.

O ran TAN 8, yr wyf yn trafod y goblygiadau ar gyfer technolegau cynhyrchu ynni eraill gyda Sue Essex. Gofynnaf i Sue gadarnhau'r sefyllfa sydd ohoni gyda TAN 8 o ran cynllunio ac eithrio datblygiadau ffermydd gwynt. O ran celloedd tanwydd, yr ydych yn llygad eich lle i nodi bod cyfle enfawr i'r sector moduron yn arbennig. Yr wyf wedi trafod hyn gydag Awdurdod Datblygu Cymru, ac yn arbennig gyda fforwm moduron Cymru. Codwyd hyn hefyd mewn cinio Sbardun Cymru y bûm yn ei annerch ychydig fisoedd yn ôl. Mae swm enfawr o waith yn mynd rhagddo yn y maes hwn, o fewn y WDA, y byd academiaidd a'r diwydiant moduron.

Trafodwyd arbed ynni a chyflwyno systemau rheoli amgylcheddol ar lefel swyddogol, ond bydd angen imi ddod yn ôl atoch ar y pwyntiau am safonau tai a'u cymhwyso i adeiladau cyhoeddus eraill. Mae eich awgrym o gyllideb wedi'i chlustnodi ar gyfer ymchwil a datblygu yn ddiddorol. Ystyriaf y posibiladau yng nghydestun y cynllun gweithredu Cymru o Blaid Arloesi. Ystyriwn pa un a fyddai unrhyw fanteision yn deillio o ddilyn y trywydd hwnnw.

Brian Gibbons: Mae'r farn

view of Wales is linked to its old historical, industrial past in terms of slag heap, smoke stack industries and so on. Your statement gives us the opportunity to project Wales as being at the cutting edge of environmentally friendly energy creation. It presents an opportunity to project a new image of Wales. Even in my constituency, which is in the heartland of industrial south Wales, projects such as wind farms, biomass, energy from waste and so on, are being implemented. That epitomises what you said.

On the role of the Welsh Assembly Government as an exemplar of good practice in this area, you mentioned buildings and so forth, but you did not mention the role of the public sector and its transport fleet. Will you give that some thought? The road vehicle is one of the main sources of pollution and of energy production inefficiencies. What role could the Welsh Assembly Government have in terms of moving forwards on the public sector vehicle fleet and on issues such as conversion to liquified petroleum gas, fuel cell technology and so on? If the public sector led on these issues, it would create the critical mass in the market to be able to move this type of environmentally friendly technology further forward, much faster.

Andrew Davies: I agree with your point that the old, stereotypical images of Wales are out of date. Following our commitment and policies on renewable energy, we are rapidly becoming a global showcase for sustainable energy production and production technologies.

ryngwladol hon o Gymru wedi'i chysylltu â'i hen orffennol hanesyddol, diwydiannol yn nhermau diwydiannau tomenni sorod, cynn mwg ac yn y blaen. Rhydd eich datganiad y cyfle inni hyrwyddo Cymru fel lleoliad sy'n arloesi o ran dulliau cynhyrchu ynni sy'n gyfeillgar i'r amgylchedd. Rhydd gyfle i gyflwyno delwedd newydd o Gymru. Hyd yn oed yn fy etholaeth i, sydd yng nghanol y De diwydiannol, mae prosiectau megis ffermydd gwynt, biomàs, ynni o wastraff ac yn y blaen, yn cael eu gweithredu. Mae hynny'n arwydd amlwg o'r hyn a ddywedaso.

O ran rôl Llywodraeth Cynulliad Cymru fel enghraifft o arfer da yn y maes hwn, crybwyllaso adeiladau ac yn y blaen, ond ni soniasoch am rôl y sector cyhoeddus a'i gerbydau. A roddwch ystyriaeth i hynny? Cerbydau ar y ffordd yw un o'r prif ffynonellau o lygredd ac aneffeithlonrwyddau o ran cynhyrchu ynni. Pa rôl y gallai Llywodraeth Cynulliad Cymru ei chwarae o ran symud ymlaen mewn perthynas â cherbydau'r sector cyhoeddus ac ar faterion megis addasu i nwy petrolewm hylifedig, technoleg celloedd tanwydd ac yn y blaen? Ped arweiniau'r sector cyhoeddus ar y materion hyn, byddai'n creu'r màs critigol yn y farchnad i allu datblygu'r math hwn o dechnoleg sy'n gyfeillgar i'r amgylchedd ymhellach, yn llawer cyflymach.

Andrew Davies: Cytunaf â'ch pwynt nad yw'r hen ddelweddau ystrydebol o Gymru yn ddilys erbyn hyn. Yn dilyn ein hymrwymiad a'n polisiau ar ynni adnewyddadwy, yr ydym yn prysur ddatblygu fel enghraifft fyd-eang ar gyfer cynhyrchu ynni a thechnolegau cynhyrchu cynaliadwy.

I will have to discuss the role of the public sector and the transport fleet with Sue Essex as it is within her portfolio. I will let you know of any work being undertaken on that.

Alun Cairns: I thank the Minister for his statement and echo his comments on the Committee's Chair and the special adviser to the Committee, Jake Chapman. I add my recognition of the Clerk and Deputy Clerk, John Grimes and Siân Wilkins for their efforts in drafting the papers. I could not offer my gratitude to them until now.

I cannot be as enthusiastic about this as Phil Williams. He said that it was an all-party paper. However, he also recalled that my representations could not be accepted given the Committee's majority view. Therefore, rather than offer its whole-hearted endorsement, the Conservative group abstained from voting for or against the report in Plenary.

I detect conflicts in Assembly Government policy, of which I have two examples. A week ago, an Assembly Minister and a Deputy Minister said that an offshore windfarm—the Scarweather Sands proposal—mentioned in this report, was a bad idea and that it would have a negative impact on tourism. However, the Minister for Economic Development is displaying a particular enthusiasm for offshore wind energy today, stating that it is the only viable means of renewable energy available in the short and medium term. There is a conflict between the Minister responsible for energy and the two Labour Assembly Members representing the constituency for which the windfarm is proposed. In response to Phil Williams, at least

Bydd yn rhaid imi drafod rôl y sector cyhoeddus a'i gerbydau gyda Sue Essex gan ei fod yn rhan o'i phortffolio. Fe'ch hysbysaf am unrhyw waith sy'n mynd rhagddo yn hynny o beth.

Alun Cairns: Diolchaf i'r Gweinidog am ei ddatganiad ac adleisiaf ei sylwadau ar Gadeirydd y Pwyllgor ac ymgynghorydd arbennig y Pwyllgor, Jake Chapman. Hoffwn gydnabod hefyd y Clerc a'r Dirprwy Glerc, John Grimes a Siân Wilkins am eu hymdrechion wrth ddrafftio'r papurau. Ni allwn ddiolch iddynt tan yn awr.

Ni allaf fod mor frwdfrydig â Phil Williams am hyn. Dywedodd mai papur trawsbleidiol ydoedd. Fodd bynnag, cofiai hefyd na ellid derbyn fy sylwadau o gofio barn fwyafriol y Pwyllgor. Felly, yn hytrach na chynnig ei gymeradwyaeth lwyr, ymatalodd grwp y Ceidwadwyr rhag pleidleisio o blaid nac yn erbyn yr adroddiad yn y Cyfarfod Llawn.

Synhwyras wrthdaro ym mholisi Llywodraeth y Cynulliad, a nodaf ddwy enghraifft. Wythnos yn ôl, dywedodd Gweinidog a Dirprwy Weinidog o'r Cynulliad fod fferm wynt ar y môr—cynnig Scarweather Sands—a grybwyllir yn yr adroddiad hwn, yn syniad gwael ac y byddai'n effeithio'n andwyol ar dwristiaeth. Fodd bynnag, mae'r Gweinidog dros Ddatblygu Economaidd yn frwdfrydig iawn o blaid ynni gwynt ar y môr heddiw, gan nodi mai dyma'r unig gyfrwng ynni adnewyddadwy ymarferol sydd ar gael yn y byr dymor a'r tymor canolig. Ceir gwrthdaro rhwng y Gweinidog sy'n gyfrifol am ynni a'r ddau Aelod Llafur o'r Cynulliad sy'n cynrychioli'r etholaeth lle y cynigir lleoli'r fferm wynt. Mewn ymateb i Phil Williams, o leiaf ni aeth

Plaid Cymru Assembly Members did not attend an anti-Scarweather Sands windfarm meeting and I respect their position on that—

Aelodau Plaid Cymru y Cynulliad i gyfarfod yn erbyn fferm wynt Scarweather Sands ac mae gennyf barch tuag at eu safbwynt yn hynny o beth—

3.40 p.m.

The Presiding Officer: Order. This is not a debate. There should be a preamble and a series of sharp questions to the Minister on the statement. I hope, Alun, that you are about to conclude your series of questions.

Y Llywydd: Trefn. Nid dadl yw hon. Dylid cael rhagymadrodd a chyfres o gwestiynau cyflym i'r Gweinidog ar y datganiad. Gobeithiaf, Alun, eich bod ar fin dod â'ch cyfres o gwestiynau i ben.

Alun Cairns: Will the Minister confirm that the Assembly Cabinet has conflicting views on this issue? Will he also give more details about the sensitivities with regard to windfarms, and will he ask the Wales Tourist Board to consider how to assess those sensitivities? Considering and accepting applications for windfarms before any report is complete pre-empts any independent investigation. We need to recognise that some of—

Alun Cairns: A wnaiff y Gweinidog gadarnhau bod gan Gabinet y Cynulliad safbwyntiau sy'n gwrthdaro ar y mater hwn? A wnaiff hefyd roi mwy o fanylion am yr elfennau sensitif sydd ynghlwm wrth ffermydd gwynt, ac a wnaiff ofyn i Fwrdd Croeso Cymru ystyried sut y dylid asesu'r elfennau hynny? Mae ystyried a derbyn ceisiadau ar gyfer ffermydd gwynt cyn cwblhau unrhyw adroddiad yn achub y blaen ar unrhyw ymchwiliad annibynnol. Mae angen inni gydnabod bod rhai—

The Presiding Officer: Order. I would love to hear some questions.

Y Llywydd: Trefn. Byddai'n dda gennyf glywed rhywfaint o gwestiynau.

Alun Cairns: At a time when there is so much excitement about new technology, is it not a major strategic error of judgment to place all emphasis on wind, when—
[*Interruption.*]

Alun Cairns: Ar adeg lle y ceir cymaint o gyffro am dechnoleg newydd, nid yw rhoi'r pwyslais cyfan ar wynt yn gamfarn strategol sylweddol, pan—[*Torri ar draws.*]

The Presiding Officer: Order. Alun Cairns is about to conclude his question.

Y Llywydd: Trefn. Mae Alun Cairns ar fin dod â'i gwestiwn i ben.

Alun Cairns: As we have heard, photovoltaic cells, hydrogen technology and other means of energy production are now possible. Why is the Minister putting all of his

Alun Cairns: Fel y clywsom, mae celloedd ffotofoltaidd, technoleg hydrogen a dulliau eraill o gynhyrchu ynni bellach yn bosibl. Pam mae'r Gweinidog yn rhoi ei wyau i gyd

eggs into one basket?

Andrew Davies: It was too much to expect a consensus on this—certainly when Alun is around. Why change a habit of a lifetime? Alun sees conspiracies and conflicts where they do not exist. It is appropriate for Members, as constituency Members, to attend meetings and pass comment on matters that affect them and their constituents. However, I am speaking as the Minister responsible for energy policy in the Assembly Government. I will repeat what I said in my statement. We support, in principle, the development of wind energy. I also said that I want as many projects as possible to proceed—and I do not think that Alun heard this part—with the full involvement of the local community. It is for the Assembly to decide on the Scarweather Sands development. It would be inappropriate for me to comment on that, as the Assembly's application will be determined under the Transport and Works Act 1992.

At least three parties in the Assembly have welcomed this report and see that, if we are to reduce global warming and to contribute towards that, there is an imperative to move away from carbon-based energy production and towards renewables.

Eleanor Burnham: I will be brief and to the point. I am speaking on behalf of Mick Bates—

The Presiding Officer: Order. I have no problem with you speaking on behalf of yourself and the Liberal Democrats but—

Eleanor Burnham: I am not a member of the Economic Development Committee. I commend this interesting and informative report

mewn un fasedg?

Andrew Davies: Yr oedd yn ormod i ddisgwyl cytundeb barn ar hyn—yn sicr gydag Alun yn bresennol. Pam newid arferion oes? Gwêl Alun gynllwynio a gwrthdaro lle na fodolant. Mae'n briodol i Aelodau, fel Aelodau etholaethau, fynychu cyfarfodydd a chyflwyno sylwadau ar faterion sy'n effeithio arnynt hwy a'u hetholwyr. Fodd bynnag, siaradaf fel y Gweinidog sy'n gyfrifol am bolisi ynni yn Llywodraeth y Cynulliad. Ailadroddaf yr hyn a ddywedais yn fy natganiad. Mewn egwyddor, yr ydym o blaid datblygu ynni'r gwynt. Dywedais hefyd fy mod am i gymaint o brosiectau â phosibl fynd rhagddynt—ac ni chredaf i Alun glywed y rhan hon—gan gynnwys y gymuned leol yn llawn. Y Cynulliad fydd yn penderfynu ar ddatblygiad Scarweather Sands. Ni fyddai'n briodol imi wneud sylwadau ar hynny, gan y gwneir penderfyniad ar gais y Cynulliad o dan Ddeddf Trafnidiaeth a Gwaith 1992.

Mae o leiaf tair plaid yn y Cynulliad wedi croesawu'r adroddiad hwn gan weld, os ydym am leihau cynhesu byd-eang ac er mwyn cyfrannu at hynny, bod yn rhaid symud oddi wrth gynhyrchu ynni yn seiliedig ar garbon a thuag at ynni adnewyddadwy.

Eleanor Burnham: Byddaf yn gryno a chraff. Yr wyf yn siarad ar ran Mick Bates—

Y Llywydd: Trefn. Yr wyf yn fodlon ichi siarad ar eich rhan chi a'r Democratiaid Rhyddfrydol ond—

Eleanor Burnham: Nid wyf yn aelod o'r Pwyllgor Datblygu Economaidd. Cymeradwyaf yr adroddiad diddorol ac addysgiadol hwn a diolchaf i bawb

and thank everyone who has contributed towards it. Devolution gives us a real chance to put a global stamp on environmental issues; we endeavour to do that. While the Liberal Democrats agree with the Committee's report, the target of 10 per cent of Welsh energy needs being provided by renewables by 2010 is not radical enough: Wales has the capacity to provide much more than that—[*Interruption.*]

The Presiding Officer: Order. Alun Cairns, you were heard in relative silence.

Eleanor Burnham: Have you considered setting a target of 15 per cent by 2010? Finally, with regard to biomass, which is a relatively new industry and has less opposition than windpower, what steps has the Assembly taken to promote this growing sector?

Andrew Davies: We will consider the developments in this area over the next few years and will then decide whether the targets are achievable or whether we need to reconsider them. We may be able to exceed them—we cannot tell at this stage. However, we would always consider our policies in the light of achievements.

Windpower clearly has a huge impact, not only in terms of energy production but also indirectly, in terms of the environmental goods and services sector, which includes energy, windfarm production, and other areas. Therefore, we believe that windpower has huge potential in Wales, and is an area of which we have barely scratched the surface. This sector was included in the business environment action plan, which I launched last week, as we

a gyfrannodd ato. Rhydd datganoli gyfle gwirioneddol inni roi stamp byd-eang ar faterion amgylcheddol; ceisiwn wneud hynny. Er bod y Democratiaid Rhyddfrydol yn cytuno ag adroddiad y Pwyllgor, nid yw'r targed o ddiwallu 10 y cant o anghenion ynni Cymru drwy ddefnyddio ynni adnewyddadwy yn ddigon radical: gallai Cymru ddarparu llawer mwy na hynny—[*Torri ar draws.*]

Y Llywydd: Trefn. Alun Cairns, rhoddwyd tawelwch cymharol ichi siarad.

Eleanor Burnham: A ystyriasoch bennu targed o 15 y cant erbyn 2010? I gloi, o ran bio-màs, sy'n ddiwydiant cymharol newydd ac y ceir llai o wrthwynebiad iddo na phwer y gwynt, pa gamau a gymerodd y Cynulliad i hyrwyddo'r sector cynyddol hwn?

Andrew Davies: Ystyriwn y datblygiadau yn y maes hwn yn ystod yr ychydig flynyddoedd nesaf a phenderfynwn wedi hynny pa un a ellir cyflawni'r targedau neu a oes angen inni eu hailystyried. Mae'n bosibl y gallwn ragori arnynt—ni allwn ddweud ar hyn o bryd. Fodd bynnag, byddem bob amser yn ystyried ein polisiau yng ngoleuni cyflawniadau.

Yn amlwg, caiff pŵer y gwynt effaith enfawr, nid yn unig o ran cynhyrchu ynni ond hefyd yn anuniongyrchol, o ran y sector nwyddau a gwasanaethau amgylcheddol, sy'n cynnwys ynni, cynhyrchu ffermydd gwynt, a meysydd eraill. Felly, credwn fod i bŵer y gwynt botensial enfawr yng Nghymru, a'i fod yn faes lle yr ydym megis cychwyn. Cynhwyswyd y sector hwn yn y cynllun gweithredu amgylchedd busnes, a lanswyd gennyf yr wythnos diwethaf, gan ein

believe that it has huge potential, and wind energy will play a key role in that.

bod o'r farn bod iddo botensial enfawr, a bydd ynni'r gwynt yn chwarae rhan allweddol yn hynny.

Economic Development and Transport Committee

EDT2 06-04 (p3)

Date : 28 April 2004

Venue : Committee Room 1

Title : Energy Efficiency Action Plan

Energy Efficiency Action Plan Consultation and results of the consultation exercise

Purpose

The committee's views are requested on the results of the consultation exercise on the Energy Efficiency Action Plan.

Background

The Energy Efficiency Action Plan (EEAP) forms part of the Welsh Assembly Government's response to the UK Energy White Paper and it also helps to fulfil the EDT Minister's vision for Wales to become 'a global showcase for sustainable clean energy production and energy efficiency'. A separate Energy Strategy Implementation Plan is to be produced.

The EEAP aims to raise the profile of the benefits of energy efficiency across all sectors of society and offer information on the support and advice available.

Consultation results

The EEAP was sent out for consultation on 17 February with a deadline for responses of 13 April 2004. The following is a synopsis of the results of the consultation exercise.

A general breakdown of the results is provided at **Annex A** which consist of a synopsis of the comments from organisations who responded to the consultation and in addition extracts from the responses from the Carbon Trust Wales and Energy Saving Trust who have a close interest in these developments. A list of all those who responded is at **Annex B**. In all 34 responses were received.

The views of the EDTC on the responses to the consultation will be welcomed. Recommendations on the next steps are to be discussed with Cabinet on 17 May 2004. The energy efficiency will also be the subject of a plenary session on the 22 June 2004. It is anticipated to launch a finalised document in June 2004.

EDTM would like to thank all those who worked on the document and contributed to the consultation exercise.

Action for the committee

The committee is invited to consider the responses to the consultation exercise and give their views.

A bilingual copy of the Energy Efficiency Action Plan Consultation document is available on the Assembly website at:

<http://www.wales.gov.uk/keypubconsultation/index.htm>

<http://www.cymru.gov.uk/keypubconsultation/index.htm>

R.Goodger
Business and Environment
OCTO

Annex A

Responses to Consultation EEAP

Overview of comments from respondents

General

Overall the response to the EEAP was favourable, it was felt to be a worthwhile exercise and people valued the opportunity to be involved in the consultation.

However concerns were expressed and views are summarised below.

Summary of responses

Many respondents had the view that stronger messages were needed to emphasise the serious nature of the effects of climate change and the need for changes in lifestyle. More emphasis on the link between climate change and reduction of carbon emissions should be made. These messages should give a greater sense of urgency stressing the need for commitment across all sectors. Several respondents supported a Climate Change awareness campaign.

Respondents also thought that the EEAP should deal with wider aspects including transport, power generation and consumption and renewable energy generation. The need for a wider energy policy or strategy was voiced by several respondents. In addition some expressed the view that energy efficiency should be addressed within the wider context of sustainability and that these issues should not be add-ons but integrated at every stage to reflect its cross cutting nature.

Another general response was the need for a mechanism or organisation to bring activities together, provide greater co-ordination of efforts and avoid duplication. It was voiced that the portal would not achieve this in isolation. In addition the need for coherence extends to funding arrangements which should be brought together and simplified. Several respondents suggested uniting this action plan with the Sustainable Development Forum Action Plan on energy efficiency. It was also pointed out that the EEAP did not adequately reflect all the organisations and their activities and that providing them with additional funding should be a priority before new initiatives were considered. Several respondents strongly recommend that much more data was required in the EEAP for example on carbon emissions in Wales and that targets, time scales, costings should be set. Mechanisms for evaluation and reporting on progress should be an integral part of the plan. Many respondents recommended that more information on how carbon savings were to be achieved should be added and stressed that additional funding would be necessary to make a real impact. A further comment was that the purpose of the EEAP was unclear and as such it did not fulfil its stated objectives.

Many respondents commented on the fact that the action plan offered few new initiatives and that much could be achieved by providing additional funding to those organisations already engaged in energy efficiency activities.

Responses cross-referenced to each section of the EEAP

Foreward

The message was generally accepted except for comments as above on the strength and scope of the message.

Energy Conservation and Efficiency

The need to raise awareness was accepted and suggestions were made for greater publicity on energy efficiency such as television campaigns, leaflets about energy efficiency delivered to households and utilising mainstream business support services i.e. Chambers of Commerce to spread energy efficiency information. However one respondent did not feel that the EEAP addressed all the barriers to energy efficiency uptake.

Energy Saving Portal for Wales

Opinions were divided on the value of the portal. Most of the respondents were in favour of the portal especially in respect of engaging the young. However even those in favour suggested that some serious questions to consider:

What can the portal offer in terms of actual carbon reductions?

How useful is the number of hits to the site to evaluate the portals effectiveness use?

Not everyone has access to the internet in fact those in most need in the domestic sector would be least likely to have access. How to ensure that we reach those people too?

Some respondents were not in favour of the portal their reasons included the fact that many web-sites and portals already exist. They also felt that barriers to uptake of energy efficiency measures would not be overcome by the portal alone.

Engaging the Young

Best practice measures in raising energy efficiency issues could be shared i.e. via Higher Education Forum, however it was thought that a wider perspective on sustainability should be pursued. Although all agreed with the principle it was felt that other more imaginative ways of engaging the young should be found than just the portal and curriculum activities. The Eco schools project was mentioned as an example of good practice.

Domestic Sector

Figures detailing domestic energy usage may provide motivation in this sector. Consumers need to be made aware of the potential energy savings and the availability of energy efficient options. Energy efficient products need to be competitively priced and grants should be streamlined to make them more accessible. It was also felt that retailers should be encouraged to promote the energy efficient products that they supply.

It was suggested that more mention should be made of the achievements of Energy Saving Trust, EEACs and NGOs who's advice is impartial and not motivated by profit. However another respondent pointed out that not all energy supplier grants and schemes are disseminated by these organisations.

Reference was made to the Sustainable Energy Act 2003 and it was felt that Wales should publish the target for reduction in residential carbon emissions along side the EEAP or even within it.

Public Sector

Greater use should be made of the power of procurement exercised by the public sector not just for energy efficient products but all goods and services including new build and refurbishment. In order to overcome 'value for money' concerns the public sector should use 'whole life costing' when considering energy efficient options.

All grants should have energy efficiency as a condition of grant allocation. Solutions should be sought to the restrictions imposed on the public sector by state aid rules and other financial options.

Issues specific to local authorities:

Many agreed that local authorities and senior managers should place greater emphasis on energy efficiency and they should have a wider perspective on sustainability.

A mechanism for monitoring energy consumption to use as a management tool and provide a link between spend and benefits in running cost savings.

Local Authorities should have professional energy managers and funds set-aside for energy efficient activities.

Greater use could be made of Community Plans to emphasise energy efficiency.

Support was expressed for promoting the role of HECA officer.

A suggestion was made that EEACs could assist local authorities in offering advice and support to the public rather than adding to the workload of Energy or HECA officers.

Industry and Commerce

Several comments were made about the achievements of the Carbon Trust and other organisations involved in energy efficiency and sustainability in general. It was noted that EEAP did not make reference to the fact that energy efficiency involves production processes not just heat and light.

Planning and Building Design

Several respondents thought that more emphasis should be made of planning and to Section L of the Building Regulations which is a driver for improved energy efficiency in new build. However BREEAM was considered by one respondent to be fairly weak regarding energy efficiency and that additional energy efficiency targets should be used in tandem with BREEAM standards. A suggestion that Wales could run an energy efficient building competition was made.

Training and Economic Opportunities

National Parks suggested working with Further Education colleges to develop demonstration projects of energy efficient best practice as training exercises.

Renewable Energy and Energy Efficiency

A view was held that renewable energy generation should be incorporated into all new buildings over a certain size.

Generally renewable energy even with grant aid will still be accessible only to those more affluent in society. Some people expressed the view that Photovoltaics are too expensive at this stage.

Consultation Questions

Responses have been incorporated into the above sections.

Extracts of the response from Carbon Trust Wales :

Regulatory or policy measures

Carbon Trust Wales propose that for regulatory or policy measures the Welsh Assembly Government should:-

- Encourage the UK Government to maximise the leverage exerted by the EU Emissions Trading scheme, i.e. to ultimately set the cap at 20%;
- Encourage the UK Government to investigate whether for Climate Change Agreements can be extended in terms of both targets and sectoral coverage;
- Encourage the setting of building standards at the upper cost-effective end of the range;
- Press for more effective billing and metering to allow businesses and the public sector to manage their energy effectively and;
- Ensure that the planning system encourages rather than discourages energy efficiency and renewable energy.

Welsh Assembly Government focused activities

In terms of support measures we propose that the Welsh Assembly Government should focus on:-

- Demonstrating leadership by only procuring (and renting) top quartile buildings for its own estate and mandate agencies under its control to do the same;
- Ensuring effective building energy performance labels on all commercial and public sector buildings under the EU Directive;
- Providing more core funding to the Carbon Trust to meet market demand for its energy efficiency services;
- Providing more support through the Carbon Trust for innovation in new energy efficiency technologies;
- Seeking collaborative funding for energy efficiency R&D through EU programmes and initiatives.

Energy Saving Wales Portal

With regards to the proposed portal we would encourage the Welsh Assembly Government to consider the following:-

- Accreditation and validation of organisations whose products and services are referenced on the website;
- Resourcing implications in terms of increased enquiries for support organisations as a result of sign-posting from the portal;
- How the new portal will fit with existing energy efficiency help-lines and websites such as Action Energy and those provided by the Energy Saving Trust and;
- Potential restrictions for businesses and organisations without Internet access.

Additional activities by Carbon Trust Wales

Further support measures that the Carbon Trust could provide to significantly accelerate the deployment of energy efficiency in Wales would include:-

- Increasing the level and expanding the range of direct support services provided by the Carbon Trust's Action Energy programme to the industrial, commercial and public sectors to meet the demand and accelerate the deployment of energy efficiency;
- Supporting business to take early action and capitalise on the opportunities that the European Emissions Trading Scheme presents;
- Expansion of the Design Advice Service (particularly for those with responsibility for large property portfolios) to ensure that energy efficiency is "designed in" at an early stage and that carbon savings are achieved at the lowest cost;
- Piloting a design support package to a number of private sector new build projects providing direct support and advice to design teams on specific new-build (and refurbishment) projects through the design, construction and commissioning phases raising building standards, and

ensuring cost effective improvement to enforcement of existing and new building regulations;

- Undertaking acceleration projects to demonstrate the commercial viability and the carbon case of building heating and building integrated renewable technologies across a range of new build and refurbishment projects;
- Continuing to raise the level of awareness, information and advice about the importance of energy efficiency in delivering our energy and climate change policy goals and gaining a better understanding of how both businesses and individuals behave in relation to energy use and;
- Supporting RD&D into new energy efficiency measures.

Extracts of the response from Energy Saving Trust Reference to each section of the EEAP

Portal- additional resources

Consideration should be given to the additional requests for advice that the portal will generate and the additional resources that Energy Efficiency Advice Centres and other agencies may need.

Climate Change Communication Programme

EST support the proposed Climate Change Communication Programme that is being developed by DEFRA and others. This would help to deliver the step change in public awareness. In addition to support Energy Efficiency Commitment and the Home Energy Conservation Act providing information and advice to the public.

Energy Certification of Schools Programme-extend to Wales

The Energy Certification of Schools Programme which is managed by EST is a scheme designed to promote energy management and energy efficiency in schools through a 'Whole School Approach'. This scheme currently covers England only and as such we would encourage the Welsh Assembly Government to consider supporting the expansion of the Certification scheme to Wales, and make appropriate funding available.

Domestic sector- Energy Efficiency Advice Centres (EEAC) and Sustainable Energy Centre (SEC)

The EEAP should make more explicit mention of EST programmes specifically the Energy Efficiency Advice Centres which, in Wales, are located in South East Wales, North Wales, Mid and West Wales. The network provides all Wales coverage of free and impartial advice to households and micro businesses. In addition expand EEACs into bigger local Sustainable Energy Centres, that can advise on all sustainable energy solutions: energy efficiency, household renewables and sustainable transport. EST are aiming to pilot Sustainable Energy Centres this financial year.

Also EEAP should mention the Energy Efficiency Partnership for Homes which it is facilitated by EST. The Partnership brings together stakeholders in domestic energy efficiency from across the UK, and thereby has the means to develop the agenda consistently, drawing on extant best practice from within the individual countries of the UK.

Planning and Building Design-align top EST Best Practice

The new Building regulations should be closely aligned to EST Best Practice Standard which achieves 25% improvement in energy efficiency over the 2002 regulations.

Training –Energy Efficiency Installer Certificate : funding for 2,500 Installers In Wales

EST and the Heating Strategy Group of the Energy Efficiency Partnership for Homes have fully developed and piloted a City and Guilds 1 day installer training module on energy efficiency called Energy Efficiency Installer Certificate (EEIC). The training programme is now fully up and running and aims to train all 70,000 heating installers in England by 2005.

EST would like to encourage the Welsh Assembly Government to make funding available for the delivery of this programme in Wales. The estimated cost for delivering such a training programme in Wales would be approximately £150,000.

Additional comments

Domestic Carbon Reduction target for Wales

Targets and indicators to monitor progress and report on effectiveness of the plan which would help to ensure that EEAP fits within larger UK energy efficiency Implementation Plan.

An Energy Efficiency Advisory Group for Wales

The group would focus on Wales-wide activity within the context of the UK energy framework. Its work would focus on strategic issues and would include: a) the provision of direction for activities b) ensuring activities are well co-ordinated, and undertaken with due consideration of key issues c) acting as a credible advisory group for the Assembly. The work of the group would need to be considered alongside that of the Sustainable Energy Policy Advisory Board.

Timing of the EEAP publication- after the publication of the Energy Efficiency Implementation Plan for the UK

EST believe that the publication of the final action plan should ideally take place after the publication of the Energy Efficiency Implementation Plan for the UK. This would enable the action plan to be considered in the context of UK wide activity and allow the Welsh Assembly Government to draw on information from the Implementation Plan and expand on appropriate elements.

Timetable for delivery of the EEAP-timetable and review of the EEAP

EST believe that the provision of a timetable for delivery and review is a serious omission from the draft action plan.

Annex B

Responses were received from:

Anglesey Aluminium

Association for the Conservation of Energy

Awel Aman Tawe

British Gas

Campaign for the Protection of Rural Wales (x2)

Carbon Trust Wales

Cardiff Chamber of Commerce

Community Transport Association

Countryside Council for Wales

Eaga Partnership Ltd

Energy Saving Trust

Environment - WAG

Finance Wales

Friends of the Earth

Isle of Anglesey County Council

Mr J Kibble – Engineer

National Energy Action

Newport & Valleys Branch of the Campaign for the Protection of Rural Wales

Newport County Council

Powys County Council

Rockwool

RSPB

Snowdonia National Park

South East Wales Energy Efficiency Advice Centre

University of Bangor

UWIC

Wales Tourist Board

WEFO

Welsh Consumer Council

Welsh Development Agency (x 2)

West Wales ECO Centre

World Wildlife Fund Cymru



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Energy Wales:

ROUTE MAP TO A CLEAN, LOW-CARBON
AND MORE COMPETITIVE ENERGY FUTURE
FOR WALES

Consultation Document

PREFACE

Our vision is to make Wales a showcase for clean energy whilst maintaining our international competitiveness.

Energy is the lifeblood of modern society. However, there is increasing evidence that burning fossil fuels contributes to climate change and has major consequences not just for Wales, but worldwide. Mitigating global warming effects is an enormous challenge for us all.

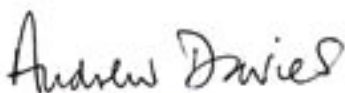
This Welsh Assembly Government Energy Route Map addresses these challenges. It sets out my vision for Wales to become a global showcase for clean energy production and energy efficiency. This will require a new approach to fossil fuel power generation as well as to renewable energy developments.

We are already playing a major role in renewable energy generation in the UK through hydro electricity and wind energy and our marine assets offer future opportunities. Renewable power can create jobs, contribute to security of energy supply, is affordable, does not produce waste, nor does it contribute to global warming. The Technical Advisory Note (TAN) 8 planning guidance proposes for Wales a reasoned and innovative approach to on-shore wind farm development.

Partnership and research & development are vital to our long-term strategic approach. We are in the process of supporting highly innovative Objective 1 projects to focus on the development of a range of new power plants.

Our energy efficiency action plan, “Energy Saving Wales” was published last year following extensive consultation. This, together with an effective Planning system, will also play a key role in achieving a strategic approach.

Sustainable development is at the core of the values of the Assembly Government and is the basis of our vision for the development of a strong energy strategy for Wales. In its fullest meaning, sustainable development is a powerfully humanist concept centred on the needs of individuals, families and communities within the environment they inhabit. Thus the goal of our Energy Route Map is to put Wales in the forefront of clean energy generation, while simultaneously developing a dynamic economy and driving forward a strong energy conservation ethos across our public and private sectors.



Andrew Davies

Minister for Economic
Development and Transport

A GLOBAL CHALLENGE...

1. As with all developed countries, Welsh energy policy faces the enormous challenge of fuelling an internationally competitive economy while maintaining the highest environmental standards and mitigating global warming effects. This document explains how the Welsh Assembly Government intends to meet this challenge in a UK, EU and global setting.

Within the UK context, the Welsh Energy Strategy, launched in March 2003, and our Sustainable Development Action Plan of October 2004 underpin the UK Government's 2003 Energy White Paper. The White Paper sets out the bold, long-term strategy for energy policy until 2050. Our Welsh response highlights the environmental importance of energy efficiency and clean energy developments, while simultaneously providing competitive and secure energy supplies from a wide range of sources.

EU innovation, environmental and energy policies, particularly the carbon Emissions Trading Scheme, are fundamental to meeting our goal and involve using mechanisms to allow business to adapt to new environmental standards in a way that protects jobs and offers economic opportunities. The UK already has the most competitive energy markets of all EU and G8 countries. We are committed to a market-based approach which delivers, both from the perspective of our energy and economic development objectives, secure and affordable energy supplies and attaining much greater energy efficiency.

At the global level, there is the imperative of addressing climate change through meeting carbon dioxide reduction targets.

In Wales, as in the UK as a whole, this will primarily be achieved in the short to medium term through an increased role for highly efficient gas and coal stations and renewables in the energy mix as well as greater emphasis on energy efficiency.

THE WELSH PERSPECTIVE...

2. Because of our geography and industrial structure, Wales' energy challenges and opportunities are highly distinctive. Our seas offer great opportunities for marine renewables, and Wales has a much larger manufacturing sector than the UK average, with a strong heavy industry component, so access to large quantities of affordable, reliable energy is especially important for the Welsh economy - as are the efforts of the Carbon Trust in Wales to encourage greater energy efficiency in businesses. Although Wales is a net exporter of electricity, there is a significant north-south divide in energy generation. We export electricity from the concentration of generating stations in north Wales while in south Wales we currently import a significant proportion of our power needs. Consequently, because of transmission costs, south Wales consumers pay some of the highest electricity prices in Great Britain. In terms of energy infrastructure there are also currently issues surrounding the limited gas supply in mid and south west Wales. There is also a relatively poor electricity transmission infrastructure in mid Wales. Fuel poverty is also a concern given Wales's relatively high proportion of low income households and the age of the housing stock in some of its poorest areas.

A WELSH AGENDA...

3. Welsh energy policy currently has five important strands:

A strong drive in Wales for:

- i. Securing 4 TWhr per annum of renewable electricity production by 2010 and 7TWhr by 2020.
- ii. Much greater energy efficiency in all sectors, as is described in our 'Energy Savings Wales' energy efficiency action plan published in October 2004.
- iii. More electricity generation from cleaner, higher efficiency fossil-fuel plants.
- iv. Significant energy infrastructure improvements, and
- v. On a holistic basis, achieving measurable carbon dioxide emission reduction targets for 2020.

Also, there is on-going discussion with the UK Government about the possible transfer to the Welsh Assembly Government of large power station consents and associated powers under sections 36 and 37 of the Electricity Act 1989.

ACHIEVEMENTS SO FAR...

4. Because of our progressive outlook on energy in Wales, including the recognition of the importance of strong dialogue between the public and private sectors, we are already playing a significant role in pursuing clean energy developments. On top of a number of relatively new gas-fired power stations throughout Wales, we have the world's highest efficiency gas turbine developed by General Electric at the Baglan Energy Park, the massive Liquefied Natural Gas (LNG) investments in train in Milford Haven by ExxonMobil and Petroplus, the planned development of the Dragon off-shore gas field and the extension by National Grid Company (NGC) Transco of the high pressure gas line to south west Wales.
5. In our older coal-fired plant, there is a drive towards cleaner operations: the strategically important Aberthaw power station has secured the relevant consents to fit flue gas desulphurisation (FGD) emission abatement technology and Uskmouth power station in Newport, already fitted with FGD, is one of the most efficient coal-powered plants of its size in the UK. Tower colliery continues to be an exemplar of utilising coal mine methane for clean energy generation and is actively involved in developing more environmentally friendly technologies. The pumped storage stations at Dinorwic and Ffestiniog are still the principal method in England and Wales of storing large amounts of energy for very rapid conversion into

electricity.

6. Whilst we must recognise that cleaner fossil-fuel technologies will continue to be the dominant part of the energy mix for some considerable time, renewable energy has an important role to play in delivering a low carbon economy.

Wales has plentiful renewable resources. We have begun to exploit these, but we have the capacity and duty to do this more effectively and efficiently.

Studies have led to setting the renewable electricity production benchmark targets of 4TWh per annum by 2010 and 7TWh by 2020. The planning system is crucial to clean energy and associated infrastructure development. The innovative and strategic approach proposed with TAN 8 for onshore windfarms and other renewables will be key to meeting our renewable electricity aspirations.

7. We have over 50 hydro electric installations, 23 major onshore windfarms and the first offshore windfarm in the UK at North Hoyle. Other offshore windfarms are in prospect. Our close links with Sharp helped secure their important investment in establishing a photovoltaic (PV) manufacturing base in Wrexham which has put Wales at the leading edge of PV manufacturing in the UK.

8. Through the Forestry Commission we have launched the Wood Energy Biomass Scheme with Objective 1 support. A range of other major clean energy projects are also receiving support under the Structural Funds Objective 1 programme. The Welsh Assembly Government's fuel poverty strategy aims to end fuel poverty in non-vulnerable homes in social housing by 2012 and the Carbon Trust in Wales is successfully assisting in major energy conservation activities in business and public sectors.
9. These and future energy-related activities offer significant economic, including manufacturing supply chain, development opportunities.

BUT THIS IS JUST A START...

10. In the medium to long term we need to facilitate many more clean energy projects, including laying the base for a strong marine renewables sector, increasing security of electricity and gas supplies, strengthening our infrastructure and continuing to raise the profile of energy efficiency. Innovation, within the context of a strong focus on driving towards an exemplar low carbon/high resource efficiency economy, is vital to Wales achieving these ends. The new Welsh Energy Research Centre and Energy Technium in Pembroke are very much to be welcomed in addition to the development of a sustainable technology Technium at Baglan. Security of energy supply requires us to continue to ensure a diversity of fuel supplies which means pressing for the development of cleaner coal operations and the eventual carbon capture for the carbon dioxide emissions of fossil fuelled power stations generally. The development of hydrogen might present us with exceptional long-term opportunities but we also need to explore a wide-range of low-carbon economy options, including high resource efficiency buildings which could act as gateways to a more sustainable lifestyle.

DETAILED PROPOSALS

11. A Wales that follows the clean energy/high energy efficiency path in a socially and economically responsible way, with a strong partnership between all stakeholders, can maximise the economic and environmental benefits for Wales and show the way to the rest of the UK and the world. Our proposed immediate actions and targets to this end are summarised on the attached diagram and detailed in the following table. Note: transport energy issues are being considered as part of the development of the Welsh Assembly Government's transport strategy.
12. Comments on the overall strategy, our vision and detailed plans in this draft energy route map for Wales would be welcome.

Please send your responses, preferably by e-mail, to energy@Wales.gsi.gov.uk or by post to:

Paul Harrington
Energy Policy Branch
Office of the Chief Technology Officer
Welsh Assembly Government
Cathays Park, Cardiff
CF10 3NQ
Tel: 029 2082 6852
Fax: 029 2082 5137

Please respond by 19th September 2005.

*** Please note that the Welsh Assembly Government may publish the responses to this consultation exercise. Normally, the name and address (or part of address) of its author are published along with the response, as this gives credibility to the consultation exercise. If you do not wish to be identified, or if you want your response to remain confidential, please state this clearly in the response.*

ENERGY WALES: ENERGY STRATEGY ROUTE MAP AND MILESTONES

ACTION PLAN TABLE

Priority Action	Objective	Key Tasks	Lead Body	Target Milestones
1. Raising awareness of the economic importance of energy and global warming	Partnership and communication strategies	<ul style="list-style-type: none"> • Invite participants (to include the CCW, EST, CT, local authorities, developers and suppliers) to a forum to consider, co-ordinate, examine and advise on issues affecting clean energy development in Wales; • Prepare a WAG clean energy/global warming mitigation communication plan reflecting the outcome of the forum. 	WAG/WDA/CT	<ul style="list-style-type: none"> • First meeting of the forum by October/November 2005. • Ensure that the communications plan is in place by early 2006.
Ensuring provision of focussed support for our energy, energy efficiency and associated economic development objectives	<p>Effective public sector support to private sector developments</p> <p>Strengthen energy-sector supply chains</p>	<ul style="list-style-type: none"> • Improve the focus of our support mechanisms • Prepare and run seminars on major issues for energy - sector groups; • Raise profile with heavy industry in Wales of importance of clean energy; • Develop supply chain strategies for key energy sectors and projects. 	WAG/WDA	<ul style="list-style-type: none"> • Phased approach to coordinated 'Energy Wales' operation launched in April 2006. • First seminar by December 2005. • Bilateral discussions with main companies during 2005/2006. • Make efforts to secure opportunities for strong Wales content in Milford Haven LNG terminal and other major energy projects.

Priority Action	Objective	Key Tasks	Lead Body	Target Milestones
2. Energy Efficiency	Implementation of 'Energy Saving Wales' – energy efficiency action plan, to reduce carbon emissions through cost effective measures	<ul style="list-style-type: none"> • Communicating cost-effective energy efficiency measures to the individual at the business, domestic and public levels; • Encourage greater development and uptake of micro-renewables; • Support the energy efficiency infrastructure through relevant training and education; • Strengthen the networking between service providers. 	WAG/CT/WDA/EST	<ul style="list-style-type: none"> • Establishment of Energy Saving Wales Portal by mid 2005. • Publish draft microgeneration strategy by end 2005 and review prospects by end 2007. • Encourage improved networking of service providers by mid 2005.
3. Renewable energy development	Development of onshore wind power	<ul style="list-style-type: none"> • Engage with stakeholders, where appropriate, with the aim of encouraging 800MW of new on-shore wind electricity development by 2010. 	WAG/WDA	<ul style="list-style-type: none"> • Provide by Summer 2005 detailed planning guidance through TAN 8. • Consider whether further facilitation and support to LA's can be provided in support of TAN8 guidance. • Consider whether, and if so how, it is possible effectively to facilitate more community benefits from major renewables projects.

Priority Action	Objective	Key Tasks	Lead Body	Target Milestones
	<p>Development of offshore wind power</p> <p>Development of biomass (including, where appropriate, waste sources) for heat and electricity production</p> <p>Development of marine (wave and tidal) energy systems</p>	<ul style="list-style-type: none"> • Engage with stakeholders as appropriate on the construction of wind farms in waters off the Welsh coast. • Research an appropriate biomass energy strategy for Wales and Welsh needs; • Assist in the process of setting achievable targets for biomass generated electricity and heat; • Make appropriate representations and seek to collaborate with key players (including DTI, Crown Estates and developers) to examine the potential for marine, wave and tidal technologies in Wales through resource assessment and environmental evaluation; • Look to increase marine renewable developers interest in establishing business presences in Wales; • Make appropriate efforts to try to ensure that major demonstration projects are located in Wales by 2010; • Look to keep open consideration of the long-term Severn barrage option. 	<p>WAG/WDA</p> <p>WAG/WDA/FC</p> <p>WDA/CCW/WAG</p> <p>WDA/CCW/WAG</p> <p>WDA/CCW/WAG</p> <p>WAG</p>	<ul style="list-style-type: none"> • Review further prospects by end 2006. • Aim to publish a biomass energy strategy with relevant targets by mid 2006. • Input to Welsh Assembly Government waste strategy on energy-from-waste options. • Complete initial consultations by end 2005. • Have the relevant resource and environmental knowledge-base in place by end 2006. • Make representations to try to ensure that the first project is underway by end 2008.

Priority Action	Objective	Key Tasks	Lead Body	Target Milestones
5. Security of supply improvements		<ul style="list-style-type: none"> • Encourage construction of appropriate new, large, high efficiency power generation plants. • Investigate large-scale energy storage opportunities 	<p>WAG/WDA</p> <p>WDA</p>	<ul style="list-style-type: none"> • Work with the private sector to examine opportunities for new large power stations, especially in SW and NW Wales, and, more generally, when appropriate, Combined Heat and Power (CHP) operations. • Liaise with National Grid Company Transco on the potential for increased gas storage in Wales. • Liaise with operator on the future of our two pumped storage plants.
6. Energy Infrastructure strengthening	Improve gas and electricity infrastructure	<ul style="list-style-type: none"> • Encourage Mid and North Wales electricity grid strengthening. • Encourage utilisation of currently under-utilised 400KV lines in Wales. 	<p>WAG/WDA</p> <p>WAG/WDA</p>	<ul style="list-style-type: none"> • Make representations to appropriate bodies to improve mid and north Wales grid infrastructure for large windfarms by 2008/2010. • Assist in reviewing, by early 2006 the potential for new power production facilities/international interconnectors to utilise spare 400kV line capacity.

Priority Action	Objective	Key Tasks	Lead Body	Target Milestones
		<ul style="list-style-type: none"> • Encourage, where appropriate, the process of adapting the electricity grid to enable the efficient connection of local renewable plants and micro-generation facilities. • Encourage, where appropriate, strengthening the mains gas network in Wales. 	<p>WDA/WAG</p> <p>WDA/WAG</p>	<ul style="list-style-type: none"> • Liaise with Distribution Network Operators with the aim of encouraging them to put Wales in the vanguard of such adaptations. • Make representations to encourage appropriate third parties reinforcement of a south west Wales main gas extension by 2007/8.
7. Drive for Innovation	Create a stronger energy R&D base in Wales	<ul style="list-style-type: none"> • Work with tenants in the energy and sustainable technologies Techniums in pursuit of a stronger energy R&D base in Wales; • Support the creation of multi-site, multi-disciplinary, Wales Energy Research Centre (WERC); • Make representations, where appropriate, to encourage key energy R&D projects to locate in Wales; • Assist in exploration of the medium and long term potential for hydrogen energy use in Wales and other ways of storing electricity. 	<p>WDA/Universities/WAG</p> <p>WDA/Universities/WAG</p> <p>WDA</p> <p>WDA/Universities</p>	<ul style="list-style-type: none"> • Assist in the capture of significant funds from relevant UK and EU funds. • Encourage creation of a WERC by end 2005. • Offer appropriate support as opportunities arise. • Review before end 2007 timescales and prospects for hydrogen in Wales and a stronger electricity-storage research base.

Priority Action	Objective	Key Tasks	Lead Body	Target Milestones
8. Carbon dioxide emission reductions	Contribute to sustainable development target of 20% reduction of Wales' Carbon-dioxide emissions by 2020.	<ul style="list-style-type: none"> • Research ways to assess the holistic effects of energy projects from a global low carbon economy perspective. 	WAG	<ul style="list-style-type: none"> • Take research findings into account in reviews of WAG climate change strategy.

GLOSSARY OF TERMS

CT - Carbon Trust

CCW - Countryside Council for Wales

DTI - Department for Trade and Industry

EST - Energy Savings Trust

FC - Forestry Commission

LNG - Liquefied Natural Gas

LA - Local Authority

NAW - National Assembly for Wales

TAN - Technical Advice Note

WERC - Wales Energy Research Centre

WAG - Welsh Assembly Government

WDA - Welsh Development Agency

Wales - A Global Showcase for Clean Energy

- Awareness of importance of climate change
- Integrated policy development and support series
- Drive for innovation
- Private/Public sector partnership
- Pursuing wider economic benefits

Energy Generation

Renewable Energy: Wind, Biomass, Ground-heat, Solar, Wave and Tidal

Clean Coal Gas/LNG

Energy Infrastructure

Electricity Grid Strengthening

Electricity Grid and Mains Gas Network

Consumption



Energy Saving Wales: energy efficiency action plan



wave



wind

Coal Mine Methane/Underground Coal Gasification



gas



coal



Research & Development

Welsh Energy Research Centre

Carbon capture and storage

Coal Exploitation Technologies



Micro-renewables

Technium Development

Marine Technologies

Hydrogen Economy



ECONOMIC DEVELOPMENT & TRANSPORT COMMITTEE

EDT(2) 01-06 (p4)

Date: 11 January 2006
Venue: National Assembly for Wales, Cardiff Bay
Title: EU Green Paper on Energy Efficiency

Purpose

To highlight to Committee Members the relevance of the European Commission Green Paper on Energy Efficiency in the context of activities in Wales.

Summary / Recommendations

Many suggestions in the EU Green paper echo both UK and Welsh Assembly Government actions. EDTC are invited to note the contents of this report to be read in conjunction with the summary of the EU Green paper produced by APS.

Background

The Green paper on Energy Efficiency 'Doing more with less', published by the Commission in 2005, aims to gather views from wide range of stakeholders on how to curb rising energy use across the EU and arrive at a reduction of 20% by 2020.

Green paper proposals to combat barriers to energy efficiency and the Welsh context

The Green paper identifies the barriers presently preventing cost-effective efficiencies from being captured such as a lack of appropriate incentives, lack of information, lack of available financing mechanisms.

Annex 1 provides an overview of:

- proposals suggested in the Green paper (numbered for ease of reference) and,
- activities already ongoing in Wales (making reference to non devolved areas).

Overview of current situation

The UK already has many ongoing initiatives and there are several reviews underway such as the Climate Change Programme review, which will highlight potential areas for greater activity.

A series of meetings were held over the summer hosted by DEFRA to discuss the EU Green paper and a report outlining UK actions already underway is contained at annex 2.

In Wales the Energy Route Map consultation contains the actions intended put Wales at the forefront of clean energy. Energy Efficiency Action Plans already represent current UK and Welsh practice. The "Energy Saving Wales" Energy Efficiency Plan for Action was published in 2004 after a wide-ranging public consultation.

Financial implications

This paper is for consideration only. No detailed analysis of any financial implications has been undertaken.

Cross cutting themes

EDTC should be aware that fuel poverty policy is a matter for the Housing and Social Regeneration portfolio.

Andrew Davies
Minister for Economic Development and Transport

Contact point: Chris Hale, Business and Environment, OCTO
Tel: 029 20 82 1608

Annex 1 : the proposals suggested in the Green paper, and, activities already ongoing in Wales making reference to non devolved areas (where appropriate).

Proposal 1

- **‘National Energy Efficiency Action Plans to identify measures to be taken at national, regional and local levels and subsequently monitor their success both in terms of improving energy efficiency and their cost effectiveness.’**

The Energy Route Map consultation contains the actions intended put Wales at the forefront of clean energy. For further details see the Energy Route Map:

<http://www.wales.gov.uk/subtradeindustry/content/consultations/ewrm-map-e.pdf>

Energy Efficiency Action Plans already represent current UK and Welsh practice. The "Energy Saving Wales" Action plan was published in 2004 after a wide-ranging public consultation. For further details see the Energy Saving Wales:

<http://www.businessenvironment.wales.gov.uk/documents/esw-e.pdf>

These documents are set in the context of EU legislation and UK wide programmes. Some UK programmes are under review at the moment; the Climate Change Programme Review, the Energy Review and the Stern Review. The outcomes of which will feed into UK –wide policy making over the next few months.

Proposal 2

- **‘Better informing EU citizens and businesses via publicity and improved product labelling.’**

Access to information is essential to change consumer behaviour. As part of the Welsh Assembly Government’s Energy Efficiency Plan for Action, Energy Saving Wales, a pilot Internet portal website, has been launched. This portal will provide to links key organisations that offer energy efficiency support services, information on financial incentives, training and awareness raising.

The Welsh Assembly Government also supports the publicity campaigns organised by the Carbon Trust, Energy Saving Trust and other key organisations.

Issues on product labelling are the subject of separate EU papers.

Proposal 3

Non devolved issue:

improving taxation, to ensure that the polluter really pays without, however, increasing overall tax levels

Proposal 4

Non devolved issue:

- **better targeting State aid where public support is justified, proportionate and necessary to provide an incentive to the efficient use of energy;**

The review of state aid rules, aimed to make them more favourable to the environment (e.g. for Eco-innovation and productivity improvements), should bring clarity for energy efficiency developments in Wales.

Proposal 5

- **'The public sector pointing the way by using public procurement to 'kick-start' new energy efficient technologies, such as more energy efficient cars and IT equipment.'**

Through the Sustainable Development Action Plan, the Welsh Assembly Government has been encouraging energy efficient procurement and practices by **all** public sector bodies.

The Welsh Assembly Government's commitment to the public sector leading by example is being demonstrated in a number of arenas. The vehicle hire tendering within the Welsh Assembly Government now has to conform to the New Car Energy Efficiency Labelling System. This means that cars available to hire will be banded by their CO2 emissions rather than any other factor such as engine size. The Green Operations Action Plan aims to reduce energy consumption across government estates by 1% each year commencing from the base year of 2001/2002.

The WDA led Environmental Goods and Services programme is also key to support market development in relation to energy efficient products and services.

Proposal 6

- **'using new or improved financing instruments, both at Community and national levels, to give incentives, but not aid, to both companies and householders to introduce cost-effective improvements'**

The Carbon Trust in Wales provides interest free loans as well as managing the Enhanced Capital Allowance scheme for energy efficient goods and services; these are available to business.

On the domestic side there are a number of schemes available in Wales which are outside the EDT remit however see next proposal.

Proposal 7

Text provided by Housing and Social Regeneration Division within whose portfolio this lies.

- **‘EU Buildings Directive – implementing and potentially extending building performance standards going further regarding buildings, where an existing Community directive applies, and possibly extending it to smaller premises in a manner that ensures cost effectiveness and minimum additional bureaucracy.’**

The requirements of Articles 1b and 1a of the Energy Performance of Buildings Directive in terms of a framework for calculating energy performance and setting minimum standards are being transposed through the reviews of the Building Regulations (Part L) and a review of the Standard Assessment Procedure (SAP) respectively. Building Regulations for England and Wales are the responsibility of ODPM who have also led the review of SAP. The UK Government's plans for tightening and enforcing building regulations in the interests of better regulation have been communicated by Defra who are co-ordinating the UK input into discussions on the Green Paper. The Welsh Assembly Government has powers for social housing regulation, but these are secondary to the requirements of the Directive.

EDT text:

In addition the Welsh Assembly is working with developers, construction clients and funders, the Design Commission for Wales and Constructing Excellence towards ensuring the built environment meets Wales' sustainable development goals, including supporting the production of a model residential design guide (by the Planning Officers Society Wales). The Welsh Assembly Government's TAN12 'Design' gives guidance on issues including the incorporation of sustainable energy and energy efficiency in building design.

Proposal 8

- **‘Using the CARS 21 Commission initiative to speed up the development of a new generation of more fuel efficient vehicles.’**

Although not part of this initiative there is a joint Welsh Assembly Government/ Department for Transport/ Scottish Executive consultation exercise in 2004 on the future of the Energy Saving Trust's TransportEnergy grant programmes. New programmes have been proposed which include:

- Low Carbon Research and Development Programme – providing grants towards the costs of research and development for prototype low carbon vehicles and technologies

- Low Carbon Demonstration Bus Programme – providing purchase grants to bus operators to incentivise the purchase of up to 150 low carbon buses
- Low Carbon Car Programme – providing purchase grants to incentivise the uptake of cars and vans that fall below a maximum CO2 limit
- Air Quality Retrofit Programme – providing grants for retrofitting air quality abatement equipment to existing vans, buses, coaches and HGVs
- Air Quality Vehicle Programme – providing grants to purchasers for eligible vehicles meeting the European Commission emission standards for Enhanced Environmental Vehicles as detailed in Directive 1999/96/EC
- Infrastructure Development Programme – providing grants to support the installation of cleaner transport refuelling and recharging infrastructure

However none of these programmes may commence until state aids clearance has been obtained from the European Commission. DfT is responsible for transport state aids matters within the UK and the proposed programmes were submitted to the Commission in April. DfT will fund all the programmes throughout the UK; Devolved Administrations may provide additional funding for all or any of the programmes.

Additional notes on transport from a Welsh perspective:

The Welsh Assembly Government continues to encourage the transfer of freight from road to rail through grant funding under the Freight Facilities Grant scheme. Grant is offered in recognition of the environmental benefits that can be “bought” by transporting freight by rail rather than road.

The Welsh Assembly Government is keen to see the integration of walking and cycling into everyday life, both as a means of transport and as active recreation. WAG has invested heavily in public transport services /infrastructure to make it easier.

Proposal 9

- **‘Mobilise all European players: national governments, regions, municipalities, industries, and individuals – and cover all the energy producing and consuming sectors.’**

‘Energy Saving Wales’ the Energy Efficiency Plan for Action is based on strong partnership approach and supports the activities of the Carbon Trust Wales and other key organisations in Wales which provide energy efficiency information and support. The Carbon Trust in Wales provides highly effective services to companies and the public sector such as; energy visits; energy audits, carbon management and interest free loan schemes as well as managing the Enhanced Capital Allowances tax relief scheme.

Proposal 10

- **‘...to ensure that only the most fuel-efficiency (CCGT) technology for electricity production is being used’**

Wales is following a clean energy/high efficiency path:

➤ **Gas**

A lot of investment has been committed in Wales to production of electricity from gas. The Baglan H turbine is a demonstration project that can achieve 60% efficiency when functioning, which is a world record for a CCGT plant.

➤ **Coal**

The production of clean efficient coal suffers from under investment in the UK. Welsh Assembly Government is keen to engage with the DTI's Carbon Abatement strategy.

Proposal 11

‘...promotion of distributed generation.’

Distributed generation assists efficiency by helping to avoid transmission losses. Distributed generation is best when a combination of energy generation sources are available within a locality. The Welsh Assembly Government is looking at the feasibility of biomass in rural areas supported by the Wood Energy Biomass Scheme (WEBS). There are many other projects are underway using Combined Heat and Power and small hydro schemes.

Wales has a target of 4TWhr per annum of renewable electricity production by 2010 and 7TWhr by 2020.

A microgeneration strategy for Wales is under consideration.

Proposal 12

- **Investment and funding**

•
Energy capital projects provide energy generation essential for the economic wellbeing of Wales and also provide significant economic development opportunities. A variety of significant projects are on the horizon providing funding for clean energy projects, biomass and marine technology projects. Structural Funds support is on offer to some of these projects. The UK Government has recently announced funding for the Low Carbon Building Programme across the UK which organisations in Wales will be eligible to bid for.

The Commission suggested that the increased energy efficiency and the promotion of clean urban transport should constitute explicit targets for the activity of the European Regional Development Fund for period 2007-13.

Proposal 13

• Technology

The Welsh Assembly Government is committed to driving innovation and R&D in the sustainable energy field. The Energy Route Map flags this importance and new Welsh Energy Research Centre, Energy Technium in Pembroke and the Sustainable Technology Technium at Baglan are underway, in addition to the relevant activities at ECM2.

The Welsh Assembly also supports the Carbon Trust's Innovation Programme.

Annex 2: Outline of UK Contribution to inform discussion in Energy Working Group

Actions underway at National Level

The UK's Energy Efficiency Action Plan (April 2004) sets out a range of measures in the household, business and public sectors which together intended to deliver over 12 million tonnes of additional carbon savings through energy efficiency by 2010. These measures include:

- A new aim to secure annual carbon savings from the household sector in the UK of around 4.2 million tonnes by 2010 and, in fulfilment of the Sustainable Energy Act 2003, a designated aim to deliver annual carbon savings of 3.5 million tonnes of carbon per year from households in England
- To double the level of the [Energy Efficiency Commitment](#) (an obligation on electricity and gas suppliers in the domestic sector to deliver energy savings) activity from 2005, and to extend it to 2011 subject to a review in 2007. This is expected to lead to investment of over £2Bn, saving customers £4Bn from their bills to 2020;
- New fiscal measures, including a tax allowance to encourage private sector landlords to invest in their properties
- Changes to the [Building Regulations](#), which will raise standards of new and refurbished buildings by 20% and implementation of the Energy Performance of Buildings Directive to unlock market demand for higher energy performance
- New energy services pilots, through which energy suppliers will be able to offer innovative new energy efficiency packages to their customers
- Implementation of the [EU Emissions Trading Scheme](#) and additional [Climate Change Agreements](#) linked to the Climate Change Levy will ensure that every energy intensive industry and power generator continues to use energy more efficiently
- Commitment to leadership by government, including new energy targets for the central government estate and a new commitment for central government to use only the best energy performance buildings
- A stronger emphasis on communicating about climate change
- [Fuel poverty](#) programmes will continue to tackle heating and insulation standards in the homes of those least able to afford to keep warm

- The [Decent Homes](#) programme, which will continue to improve energy standards in social housing.
- Continuing to raise product standards through the Market Transformation Programme
- Continuing to inform, advise and support individuals, businesses and the public sector through the activities of the Carbon trust and Energy Savings Trust
- A Strategy to promote Combined Heat and Power (CHP)
- Supporting innovation in lower carbon technologies, particularly through the Carbon Trust's innovation programme

Full details can be found at

<http://defraweb/environment/energy/review/index.htm> .

The review of the UK's Climate Change Programme is considering the need for additional cost-effective measures.

Measures to improve energy efficiency in the transport sector are set out in the Powering Future Vehicles Strategy (July 2002) and the Transport Ten Year Plan which focuses on addressing the negative impacts of congestions, promotes increased use of public transport and shifting goods from road to rail.

Full details at: [DFT weblinks]

Obstacles to be overcome

The UK considers that the principal barriers to improvements in energy efficiency are:

- Investment costs including aversion to risk on the part of lenders, insufficient pay-back periods, competing priorities for investment
- "Hidden Costs" such as management costs in the business sector and the 'hassle factor' of undertaking energy efficiency improvements in the domestic sector.
- Split incentives, such as the landlord/tenant issue and other market failures
- Ignorance, inertia and lack of interest on the part of energy consumers

The significance of individual barriers to change will vary by both sector and the use of energy (e.g in buildings or manufacturing)

Priorities for Action

The UK considers that the broad areas which should be considered as priorities for action are:

- Strengthening the evidence base and promoting consistency and coherence across any package of measures in the interests of better regulation.
- Strengthening product standards and labelling
- Addressing energy efficiency in the transport sector
- Improving the Energy Efficiency of both new and existing buildings
- Addressing the split-incentive issue in the private-rental sector
- Improving feedback on consumer consumption and more effective communications
- Incentivising change in large non-energy intensive organisations, including the commercial and public sectors, and increase transparency of energy use
- Continuing to drive energy efficiency in the industrial sector
- Making effective use of fiscal instruments
- Stimulating the development and deployment of energy efficiency technologies
- Promoting distributed generation, particularly micro-generation
- Engaging 3rd countries more effectively through dialogue with international partners and facilitating better sharing of information and best practice

Instruments to be used / appropriate level of action

Some key instruments that could be used and which reflect the priorities set out above include:

- Development, and revision at appropriate intervals, of European and National Action Plans as a framework for consistent package of instruments to improve energy efficiency
- Ensuring EU-ETS works effectively and Phase2 allocations are strong and ensuring coherence and consistency with any emerging proposals for white certificates.
- Obligations on suppliers mandated at European level (under the Energy Services Directive) but detail to be determined at national level.

- Trading and White Certificates could be an important tool, looking ahead to potential EU-wide trading, it will be important for there to be some consistency in how national white certificates are developed.
- Improved emission standards for vehicles [and other transport instruments] to be agreed at European level.
- Use the Eco-design of Energy using products Directive to raise product standards, particularly of cold and wet appliances and establish standards for consumer electronics and reduce stand-by losses. Tighten tolerances on labelling and standards.
- Target better consumer information at both a national and European level through domestic schemes and revision of the Labelling Directives
- Tightening and enforcing national building regulations.
- Improving consumer information through informative metering to be delivered at national level within the European framework set out in the Energy Services Directive.
- Undertaking benchmarking of energy efficient standards and policies at a European level and disseminating best practice through regular review and reporting process, possibly under the Energy Services Directive
- Fiscal instruments, such as tax allowances, levies and use of indirect taxation, are potentially helpful levers to be deployed at national level though action at European level could help increase Member States freedom of action in this area, for example through changes to the VAT Directive to allow reduced rates for a range of energy-efficient products and energy-saving materials for DIY installation.
- Promotion of energy efficiency as a key element of bi-lateral and EU-dialogues with key international partners, particularly the emerging economies, and working closely with International organisations and individual countries to exchange best practice
- Conducting increased and clearly focussed research and development on energy efficiency technologies covering all stages from research to deployment at both a national and European Level, including committing more funds to FP7 and the Intelligent Energy programme and ensuring that there are strong linkages and co-ordination between national and European research efforts.

Economic Development & Transport Committee

EDT(2)-06-06(p.7)

Date: Wednesday 29 March 2006

Venue: Committee Room 3, Senedd, Cardiff Bay

Title: Welsh Assembly Government Energy Policy Update Paper for EDTC

Purpose

To inform the Committee of developments relating to Welsh energy policy as we move towards the finalisation of the Wales Energy Route Map during the summer this year.

Summary

There is increasing recognition around the world of the major challenges faced in ensuring that energy supplies are secure and affordable, produced in a safe and reliable way with minimum impact on the environment both at the local and global levels. The only way to minimise the risk of not meeting these goals is through the pursuit of diversity which, because of the complexity of the issues, can be considered analagous to completing a complicated jigsaw puzzle.

In this complex world, to succeed both in creating each piece of the puzzle and putting them together holistically requires a strong private/public (Whitehall, Assembly Government, local authority and in some cases European Commission) partnership. These partnerships will only succeed if there is a clear vision and common purpose. To help enable this in Wales, the Welsh Assembly Government activities in pursuit of the energy route map goals have already been amended in the light of the consultation responses and the discussion at the Energy Summit before Christmas, for example, in respect of seeking the extension of the life of Wylfa nuclear power station. Looking forward, the final version of the energy route map, which we aim to produce in the summer, will also give full consideration to the findings of the current UK Energy Review. In addition, as part of the process of the merger of the WDA into the Assembly Government, Energy Wales is being created to act as a focal point to help all work in concert towards the common goals.

Timing

The Wales Energy Route Map has been through its main consultation stage and discussions took place with our main energy users, producers and stakeholders at an Energy Summit jointly chaired by the First Minister and Economic Development and Transport Minister in December 2005. The Route Map will be finalised after the initial report of the UK Energy Review, which is expected in Summer 2006.

Background - The Energy Policy Challenge

The goal of achieving the following for energy supplies is a very challenging one and yet one we must meet. Energy must be:

- produced safely, securely and reliably;
- affordable and competitively priced;
- cause minimal environmental impact in its generation, especially from the local pollution and global climate change perspectives, and
- used as efficiently as possible.

And, as we pass through what is a watershed from the old world of energy production to the new, we have the opportunity to maximise the economic development and supply chain opportunities which will abound from these major changes.

The scale of this challenge is exacerbated by the following:

On a global level:

- the perception that as this century progresses, oil and gas supplies may not meet the world demand, especially as nations such as China and India with their enormous populations seek to emulate the West's economic success. Note that with our economic system, it is the perception of the financial sector that matters rather than the reality of the supply situation;
- the growing evidence that not only is human-activity induced global warming a real phenomenon but the chances of catastrophic runaway effects are not insignificant;
- CO₂ emissions from developing countries are growing at rapid levels. Last year alone China added to its annual CO₂ emissions level the equivalent of the UK's entire annual output of CO₂ and
- most of our chemicals and plastic products (and to an extent food through fertiliser inputs) currently depend on oil as the primary feed-stock.

Also at the UK level we have seen:

- the sharp rise in electricity and gas prices with the UK becoming a net importer of gas sooner than expected;
- large-scale offshore wind projects proving more problematic to bring into being than expected;
- the increasing scale of the challenge to meet the UK's Kyoto targets for the reduction in carbon-dioxide emissions; and
- the launch of a wide range of major studies, including the:
 - Stern review of climate change economics;
 - the DEFRA led climate change programme review;
 - Treasury led consultation on barriers to wide-scale commercial deployment of carbon capture and storage;
 - Eddington study of transport and economic growth;
 - Baker review of land use planning;
 - ODPM review of measures to reduce emissions from existing building stock; and
 - DTI Review of micro-generation prospects.

On a Wales Level:

- High UK energy prices have a disproportionately large impact on Wales as we have a larger proportion of heavy industry than the rest of UK;
- Energy costs to UK industry are now among the highest in the EU. Welsh manufacturers have voiced their concern that if this continues they will become uncompetitive;
- South Wales already pays the highest UK domestic electricity prices, though this situation may ease as more generation comes on line as a result of proposed new power station build.
- We are still in the early stages of realising the potential for renewable energy in Wales.

Pursuit of Diversity

The quest for affordable, safe, secure and sufficient supplies of energy for the last 100 years has been a major risk-management exercise. For the reasons outlined above, the management of risk is becoming increasingly complex and the importance of pursuing diversity is becoming ever more apparent. As we look forward, there is a wide range of options which might be pursued in the short, medium and long term. In Wales, the medium term options which are of greatest interest include the following.

The pursuit of renewable energy production both at the large scale and through micro-generation at the individual building level. Whilst wind energy, especially that based on-shore, is currently the most commercially attractive, bio-mass energy (including that from waste) and marine renewables in Wales have considerable potential and are currently being supported through the use of Structural Funds. In the

longer term, solar photo-voltaic systems may have an enormous potential

The exceptional opportunity presented by building the Severn Barrage between Lavernock and Brean Down. Whilst costing £10 billion plus on current estimates and raising many local but serious environmental issues, the barrage would be equivalent to 2 nuclear power stations operating continuously, lasting not 40 years with a questionable legacy but operating for 150 years plus and throughout its life:

producing zero-carbon electricity on a totally predictable, low cost and reliable basis – which may have considerable long term financial investment attractions in the current economic climate; whilst not conserving the existing environmental regime (which in any case will be disturbed by global warming effects) may have the potential to significantly enhance the biodiversity of the Severn Estuary; and providing further flood defences as the effects of global warming come into play

While the construction of any barrage would require overcoming some very serious European Commission driven environmental legislation constraints, it is now considered appropriate to re-examine the Severn barrage proposals in depth.

The growth and use of energy-related bio-mass, with its capacity to produce heat, electricity, vehicle fuels and new chemical food-stock. Although the potential production volumes may be limited because of land availability considerations, bio-mass in the form of waste, forestry, energy and chemical food-stock crops offers:

energy diversity and “storage”;
low-carbon electricity, heat and transport, alongside;
agricultural, supply chain and research opportunities.

This may well be an area where the energy requirements of the public sector in Wales could facilitate confidence in associated agricultural investments;

- Clean coal and ‘carbon capture and storage’ (CCS) technologies, although they will be developed on the world stage, if applied to new and existing fossil-fuel stations could greatly assist us in fulfilling the Welsh Assembly Government’s sustainable development duties. There is no doubt that large-scale fossil-fuel stations will remain the mainstay of electricity production in Wales for the next 20 years plus and therefore pursuing these opportunities at the research, demonstration and full commercial levels should be a high priority.
- Also attractive may be other new technologies for extracting energy from underground coal reserves, which, if combined with carbon capture and storage, could create a major *indigenous* low carbon energy source. In the short to medium term, supplementing conventional coal extraction methods, there is some energy generation potential from coal bed methane and enhanced coal bed methane projects. In the long term, there are considerable deep coal reserves

from which the energy could be extracted by gasifying the coal in situ (underground coal gasification (UGC)).

- Nuclear, both fission in the medium term and fusion in the long term, could play a strong role in the pursuit of diversity and low carbon electricity production but, from the risk management perspective, these technologies bring other issues into play. These include:
 - dealing with the very long term radioactive waste legacy;
 - with fission, nuclear weapon-material proliferation concerns; and
 - the risk, low but not zero, of accidents or terrorist actions, possibly leading to the creation of non-inhabitable areas.

These issues are being explored, along with the estimates of true economic cost, in the UK Energy Review, the findings of which we await with interest. However, at the moment based on existing knowledge as discussed in the 2003 UK Energy Review, we believe that sufficient other new electricity generation will come on stream in Wales over the next 10-15 years to make the pursuit of new nuclear build unnecessary from our medium term perspective. We do, however, recognise the importance on a shorter timescale of the continuation of the existing Wylfa nuclear power station, especially in respect of its synergy with the nearby Anglesey Aluminium Metals operation. The issues surrounding the extension of the life of Wylfa are currently being re-examined by the Nuclear Decommissioning Authority.

Last, but of great importance, there are the issues surrounding:

- building and process energy conservation measures;
- the installation in buildings of micro-generation (especially non-fossil fuel driven systems); and
- the use of highly fuel-efficient vehicles.

All have the tremendous attraction of reducing energy demand, and thus energy costs and related emissions, and simultaneously decreasing the vulnerability from the disruption of conventional oil, electricity and gas supplies.

Whilst the programme outlined in Energy Saving Wales, and the establishment of the associated internet portal, provides a sound base for the pursuit of energy conservation, we accept that, alongside programmes such as HEES and the activities of the Carbon Trust and Energy Saving Trust in Wales, more needs to be done. Somehow we need to enable many more champions to successfully ensure that as many people as possible in Wales understand the importance of conserving energy and minimising carbon emissions and know that there are quality and affordable remedies available.

With micro-generation, as well as overcoming the public-resistance issues, in many instances significant further technology developments are required to enable large-scale deployment. A new Wales micro-generation strategy is in

preparation alongside the associated DTI plan. We are looking for the most effective ways of :

- raising public awareness and knowledge;
- increasing the capacity of our installation businesses;
- further developing our a micro-generation equipment industry
- promoting best practice in all sectors of our communities.

With transport, policies which might enhance a more environmentally friendly transport system are under review.

Private-Public Sector Partnerships

Putting together the diversity puzzle can only be achieved through a strong partnership between the public and private sectors, between Whitehall, the Welsh Assembly Government, local authorities and in some instances European Commission. The nature of the partnership may well vary according to the task in hand, with for example the pursuit of greater energy efficiency involving a very wide range of partners indeed, including the general public. On the other hand, there are some basic principles which need to be borne in mind.

- First, since we operate in a free market system, we clearly need to seek a framework in which private sector decisions emerge in line with public policy goals. At present we hope the final version of the energy route map in conjunction of the outcomes of the UK energy review will fulfil that role.
- Second , the importance of having a common vision, hence the need for clear strategies, including the energy route map and the energy strand in the proposed new Wales science policy(for which the consultation period has just ended), if possible implemented and further developed with the help of expert discussion fora and effective communication campaigns.
- And third, because the focal point at the individual project level of this private-public sector partnership is often the planning application, we need to ensure we have planning processes in Wales which are as effective as possible in taking notice both of local views and national needs.

Way Ahead

Last summer we consulted on the energy route map. Its contents were based not only on the findings of the 2003 UK Energy Review and the preceding Cabinet Office/PRU Review, but also extensive discussions with stakeholders, including those which occurred as part of the Economic Development Committee review in the first Assembly term. We have already amended the activities as described in the first version of the Energy Route Map as a consequence of the consultation responses and the discussions at the Ministerial chaired energy summit just before Christmas. For example, the case for the extension of the life of Wylfa power station is being pressed.

Looking forward, the final version of the Energy Route Map, which is scheduled for production in the summer, we will take careful note of the findings from the current UK Energy Review, with which we are maintaining close contact. Under the auspices of the route map we are currently preparing a micro-generation strategy for consultation and undertaking extensive exploratory work on the prospects for biomass energy.

Finally, with the merger of the Welsh Development Agency into the Welsh Assembly Government a core Energy Wales team is being created and an integrated regional energy- project support approach being developed . This is being done to ensure that Welsh Assembly Government resources are used as effectively as possible in support of delivering our energy policy objectives, both at the strategic and project level – through which some £4/5 billion of investment in Wales is being pursued. On the wider canvass within the Welsh Assembly, close working will take place between the new Department of Enterprise, Innovation and Networks and other relevant Welsh Assembly Government departments, including the Department for Environment, Planning and Countryside, and the Spatial Plan strategic support teams.

Action for the Economic Development and Transport Committee

To consider this report and offer comments.

Welsh Assembly Government: Response to UK Energy Review
Andrew Davies, Minister For Enterprise, Innovation and Networks

Yesterday the UK Government published the results of its review of Energy in the UK. The Review report makes around 50 recommendations for energy in the UK. The Welsh Assembly Government in general welcomes its findings which have emerged after a wide ranging consultation including submissions from the Welsh Assembly Government. We will continue working closely with the UK Government in the coming months on the detail in particular on planning, climate change measures, and through Liaison Groups which will be established.

I applaud the Review's aims and the recognition that the challenge lies in delivering cuts in emissions without compromising our energy requirements and our economic ambitions. We look forward to working with the UK Government to ensure that opportunities for Wales to assist in delivery of the Energy Review aims are maintained.

In the submission I made to the Energy Review I reiterated our belief that addressing energy needs and energy consumption, as well as identifying economic opportunity should be at the heart of the holistic and strategic approach by the Welsh Assembly Government. Our policies are aimed at creating the best environment to enable this to happen as well as meeting our wider environmental commitments on the wider environmental horizon.

I welcome the fact that the Review report highlights the need for a diverse and secure range of energy generation in the UK. Much of the attention has inevitably centred on whether new nuclear power station plants are to be given the go-ahead; but the review is about far more than that.

I am particularly pleased to welcome the continuing strong support for renewable technologies. The proposals to reform the Renewable Obligation will provide a strong framework for all renewable technologies but especially providing the essential encouragement and support for the development of new technologies as we look to the future. Our sea and coastline offer great opportunities for marine renewables and this further support together with our full examination of the Welsh marine energy resource will, I hope, further encourage new projects in Wales.

The review also recognises the importance of grid reinforcement and the crucial role of the planning system in facilitating the delivery of energy projects. Our Technical Advice Note 8 (TAN 8), which is a step change in national planning guidance, is intended to facilitate the measured development of renewable energy with the commitment to facilitate grid reinforcement. The Welsh Assembly Government has pressed for inclusion of further work to examine the scope for a Severn Tidal Barrage. I am pleased therefore that the review recognises that this, the single largest

renewables project in the UK, deserves further study. We intend to play a full part in taking this work forward to its next stages.

Coal-fired power generation is an integral part of Assembly Government energy policy and the Welsh energy mix. Large-scale fossil-fuelled stations will remain the mainstay of electricity production in Wales in the medium term and therefore new high-efficiency coal and gas-sourced, and carbon capture and storage (CCS) technologies, could greatly assist us in fulfilling the Assembly Government's sustainable development duties. Pursuing these opportunities at the research, demonstration and full commercial levels should be a high priority.

I fully support the Review's recognition of the vital role played by coal generation and its commitment to the formulation of a Carbon Abatement Technology (CAT) strategy. This, combined with the UK Government's promise to create the international legal framework for the opportunities presented by carbon capture and storage, has great potential, particularly if ways can be found to capture carbon from existing power stations at reasonable cost. I believe the Coal Forum proposed by the Review, which will bring together producers, power generators and other interested parties, will aid the long term interests of the UK coal industry.

The Review identifies a major role for new nuclear development. I believe that sufficient other new non-nuclear electricity generation will come on stream in Wales over the next 10-15 years to make the pursuit of new nuclear build unnecessary in this timescale. Projects proposed in Wales include major gas-fired stations located around Milford Haven based upon the LNG terminals now under construction; a new gas fired plant at Uskmouth; major proposals for biomass generation, for example at Margam, and co-firing and massive investment committed to extend the life of the Aberthaw power station. With Wyfla nuclear power station due to close at the end of the decade, the Assembly Government's Energy Wales is looking for alternative power generation to meet the needs of Anglesey Aluminium.

With regard to the Review's recommendation on nuclear power, we have long argued that any subsidy of this sector could seriously skew energy markets and de-stabilise investor confidence in other electricity production technologies. Nuclear energy is a long established industry which should need no pump priming from government. Hence, the Review's recommendation that the UK Government provide no subsidy for any new nuclear programme is to be welcomed.

The Review emphasises the importance of energy efficiency which is instrumental in meeting our energy objectives specifically reducing carbon emissions and contributing to security of supply as well cutting costs and increasing competitiveness. The Review makes some valuable proposals for taking the efficiency agenda forward including changes to energy bills to make it clearer how much energy households use, real-time electricity displays in every home and smart metering. In Wales, as part of the drive to encourage technological improvements, we have also had discussions with

manufacturers about the benefits of reducing the amount of energy used by electrical products when on standby.

In Wales, our Environmental Goods and Services Programme supports companies in the development of new processes and products. "Design Wales" has been commissioned by the Assembly Government to work with a group of SMEs to analyse and design out energy waste and other resource inefficiencies. This Welsh ECO Design initiative will enable SMEs to embrace energy efficiency while gaining a competitive advantage

One of the challenges that we face is raising the awareness of the benefits of energy efficiency. Its profile will benefit from the requirements in the recently launched Low Carbon Building Programme which ties certain energy efficiency measures into eligibility in accessing funds available for renewable energy installations. In addition, we sponsor Carbon Trust Wales, which offers awareness raising and training events at all levels

Applications for funding under the new EU structural funds programmes from 2007 will also require energy efficiency and renewable energy to be promoted. A consultation on the draft Operational Programme will be published for public consultation later in the year.

We want to see a wide range of other technologies developed both at the large and small scale. We are making progress on biomass - especially in locally supplied heating systems for public sector buildings such as schools, leisure centres and the new Assembly building - and with wave and tidal systems utilising current EU Structural Funds support. In addition we already have substantial hydro power/pumped storage systems, with some limited potential for more.

The Review recognises the long term potential of Microgeneration. The Wales Microgeneration strategy has recently been the subject of a wide-ranging public consultation exercise. We are looking for the most effective ways of:

- Policies which raising public awareness and knowledge;
- increasing the capacity of installation businesses and easing the installation process;
- further developing a microgeneration sector in Wales, and encouraging relevant technology developments.

The responses to this consultation are currently being analysed. In addition, ways to enhance a more environmentally friendly transport system are under review.

The full details of the Review's planning proposals have to be worked out. Planning is a devolved function and we will engage in dialogue with the UK Government on what is being proposed. In the coming months we will also continue discussions with DTI on the transfer of consenting powers.

Planning guidance in Wales promotes and facilitates the uptake of microgeneration and we are keen to support initiatives in this area where possible. This has also been addressed by many responses to the Microgeneration consultation which we are currently analysing.

The Wales Transport Strategy, which will be published imminently for consultation, sets out the Assembly Government's desire to encourage sustainable modes of transport and minimise the need to travel. Some examples of good practice in Wales produce just a twentieth of the harmful emissions of a petrol or diesel engine and are significantly quieter. We are supportive of greater use of bio-fuels and hybrid vehicles, and will work with others to see how best their uptake can be promoted.

We are also working with the automotive industry and others to support a range of developments, including the NARO vehicle project which is both fuel and congestion friendly, the Q-electric vehicle project and we are working with Corus and others on the development of gas/diesel blend technology which will result in a quieter and cleaner environment. We are also engaged in commissioning research into low emission technologies and investigating the provision of alternative fuel infrastructure in Wales. In addition, there is a project with the University of Glamorgan which focuses on the development of a hydrogen bus.

Our detailed energy policy aspirations are highlighted in the Wales Energy Route Map, which has been through its main consultation stage. The Route Map will now be finalised this year with continued emphasis on diversity of supply and strong stakeholder engagement. The UK Energy Review recognises that the latter will only be achieved if there is long-term investor confidence in each of the diverse components. The Review goes some way towards achieving these aims but we are still at the start of a long process of identifying the winning energy technologies for the UK in the twenty first century.

Examination of Witnesses (Questions 701-719)

ANDREW DAVIES AM AND DR RON LOVELAND

8 MAY 2006

Q701 Chairman: Welcome to the Welsh Affairs Committee. Minister, we do know you, but for the record could you introduce yourself and your colleague?

Andrew Davies: Andrew Davies, Minister for Enterprise, Innovation and Networks, the name of my new department. I am accompanied by Dr Ron Loveland, who is the Chief Technology Officer for the Welsh Assembly Government, but who also heads up, a director, of Energy Wales, the new department set up to take forward any development of energy policy. Behind are Lynn Griffiths and Alan James, also of Energy Wales, and also the Office of the Chief Technology Officer.

Q702 Chairman: In July last year you published the *Wales Energy Route Map* for consultation. Are you in a position to tell us the main outcomes of that consultation?

Andrew Davies: I think it is broadly supportive of the approach about a broad mix of technologies taken forward in terms of energy production. Certainly our view, in terms of how we meet our energy production needs in the future, based on growing demand for energy, is very much the same challenge that the UK Government has identified in terms of its energy review, but also taking into account our almost unique duty to promote sustainable development and increasing emphasis on those energy-production methods which reduce our environmental impact.

Dr Loveland: Normally, we would by now have produced a finalised version of the *Energy Route Map* but that obviously awaits the outcome of the current UK energy review. There was also the summit meeting that was chaired jointly by Andrew Davies and the First Minister, which very much ratified the views expressed in the *Energy Route Map* but asked for more emphasis on marine renewables and coal, and a clarification of our position on nuclear.

Q703 Chairman: Do you think that the *Route Map* will be able to influence the UK energy review? I am struck by your remarks about the impact of democratic devolution on these matters. The Chancellor in recent times has remarked on the way in which we should move away from a model of the periphery and centre, and that devolution should be about some kind of sense of equality between the so-called periphery and the centre.

Andrew Davies: Obviously, in terms of our powers, energy policy as such is non-devolved. However, we are very much part of the UK energy production and energy grid. While Wales is a net exporter of energy production, in North Wales we are an exporter, whereas in South Wales we are a net importer. That is one of the reasons why energy prices in South Wales are some of the

highest in the UK; so we are very much part of the UK policy context as well as part of the energy production system in the UK. There are some elements where we have a very strong interest and we do have powers, for example in terms of planning of power stations. We are part of the planning process, except of course under sections 36 and 37 of the Electricity Act, where any power station over 50 megawatt is a matter for, on the one hand, the relevant local authority, or the UK Government through DTI. We see ourselves as very much part of the UK. That is why we are playing a very full part in the energy review, but within that we have, we felt, our own distinct needs and requirements in Wales, not least of which are our commitment to sustainable development.

Q704 Albert Owen: Dr Loveland mentioned awaiting the outcome of the energy review, and obviously you want an integrated UK level, as well as having some devolved powers. How do you think your submissions will influence the outcome; and if the outcomes are different are you likely to listen to the energy review and go back out for consultation or just take on board those decisions?

Andrew Davies: Clearly, the lead on this is the UK Government, the DTI. We will obviously seek to influence that. For example, as members will be aware, we have argued very strongly that the Severn tidal barrage should be seriously considered, and we have continued to make that point, the First Minister and I, both in written submissions and also meetings we have had with DTI ministers. We have made the case that it should seriously be considered because obviously of its capacity to generate over 5% of the UK's total energy needs. There are therefore specific areas within the review where we think we have expertise, or potential that we can exploit. Clearly, we are within the UK Government's remit, and there is no way we can declare UDI. Clearly, we would have to work within that UK policy, but at the same time seek to influence that.

Q705 Mr Jones: Minister, in your paper you argue for a holistic approach to energy production in Wales, but we do have a predominance of wind power in Wales. What do you think needs to be done to get an appropriate level of diversity in energy production?

Andrew Davies: I would not say we have a predominance of wind power. Certainly in terms of renewable energy at the moment, by far the most commercially exploitable form of renewable energy or green energy is indeed onshore wind. Obviously, we have the first offshore wind farm in the UK, but there are still big issues around offshore wind. Certainly onshore is by far the form of renewable energy production that is most exploitable commercially in Wales. Our judgment is that hydroelectricity has probably reached its maximum in terms of significant development, but clearly there is a role for community hydro schemes. The First Minister, as I am sure you are aware, opened a community scheme in Talybont-on-Usk only a few weeks ago. We think there is significant development potential for biomass, again on a community level, although we understand there are significant proposals for larger biomass development, particularly in and around some of our major

ports. We think there is scope in the medium term for marine technologies, whether that be tidal, tidal stream or indeed wave—and the Danish company Wavedragon have their R&D project down in Pembrokeshire. However, given the current state of technology, that is not commercially exploitable for some time. Tidal barrage, as has been shown in northern France, River Rance, is commercially exploitable, and based on that experience we have asked for the Severn tidal barrage to be seriously considered. The River Rance scheme in northern France has been generating electricity almost unobserved for forty years, and I understand at a lower price than nuclear; and obviously France has followed the nuclear route quite significantly. We also see very significant opportunities provided by micro-generation, and only recently launched consultation on micro-generation strategy, and we await the response of people on that. We believe that there is within micro-generation significant scope for photovoltaics, not the least of which of course is Sharp, the Japanese manufacturer, which has a European manufacturing facility in Wrexham in North Wales, and we will be doing everything we can to increase demand for that form of energy generation. In terms of renewables, onshore wind developments are the most significant and make the most significant impact in terms of reaching our renewable energy targets. I suppose our view is that it is likely to be an interim technology until such time as other forms of renewables reach a commercially exploitable stage of development. In addition we know for the foreseeable future, in terms of energy production, that fossil fuels will continue to make the most significant contribution, whether it is coal—and we are very dependent on the Aberthaw power station near Barry; and we are delighted that RWE are introducing flue gas desulphurisation technology there to reduce sulphur dioxide emissions. Given the importation of LNG into Pembrokeshire, there is the likelihood of two gas-fired power stations. We feel that for the foreseeable future, while renewables will have a growing part to play, fossil fuels will generate the predominance of our electricity.

Q706 Hywel Williams: That is a long and very impressive list, Minister. However, in the holistic approach to energy would you not agree that demand management is part of the mix; that is to say, you should be looking towards conservation? I did note that you said in your introductory remarks that increased demand was—I do not think you said a given, but you seemed to assume that there would be increased demand. Can you address some remarks towards conservation and demand management?

Andrew Davies: You are quite right: it is clear that the most significant impact we could have on reducing carbon dioxide and other warming gases would be by reducing our energy consumption in the very first place. We are working with the UK Government seeking to do that very significantly, particularly through the management of our own estates, as a government, through the public sector—for example the work we are doing with the Carbon Trust on the NHS estate in Wales; we are improving efficiency, and reducing energy use. Similarly, in terms of the design of public buildings, this building probably being the best example of that, we are reducing energy use in the first place but at the same time we are looking at using renewable energy sources such as heat exchange through drilling into the earth's core. The challenge we have

in the private sector is that until fairly recently energy has been fairly cheap in the UK. The First Minister and I meet with the energy industry regularly, both energy users and producers, and only a couple of years ago the biggest problem faced by energy producers was that energy was cheap and they were taking a lot of energy production out of circulation and mothballing for example the Fifoots power station just down the road near Newport. The incentive to save on energy costs at that time, when energy costs were low was minimal. Clearly, we are faced with a very different situation, and it will be much easier to encourage both industrial and domestic users to reduce energy now that the cost of energy, both gas and electricity, have increased significantly; so we are working very closely with the UK Government on a range of measures to reduce our use of energy, particularly in terms of design of buildings, making them more energy-efficient.

Q707 Chairman: You mentioned buildings. Your ministerial responsibilities also include transport. We were struck, during our recent visit to the United States, by the Green Cities' Alliance—cities like Chicago, Denver and Seattle. They place great store on public transport and the interface with development of brownfield sites for housing and other public buildings. Have you given much thought to the place of transport in this mix?

Andrew Davies: Very much so. Until fairly recently, however, we had very few powers in terms of transport; but since the Railways Act of last year and the Transport Wales Act have now reached the statute book, we have the powers, as a government and as a legislature, to drive an integrated transport policy. We are currently drawing up the All-Wales Transport Strategy, which is one of the first requirements of the Transport Wales Act. Our commitment to public transport is well known. Obviously, the powers we have had until now have been fairly minimal, if almost non-existent, to drive and deliver an integrated system at a local level. We are now working with local authorities, both individually and collectively across the four transport consortia in Wales, to encourage a modal shift. Our commitment to rail transport is well known. Obviously we opened the passenger services on the Vale of Glamorgan line last June, and next year we will be opening passenger services on the Ebbw Vale line for the first time since the Beeching cuts of the early 1960s. Rail use in Wales is growing very significantly, and I understand faster than any other part of the UK. Given that traffic growth is projected to be faster in Wales than the rest of the United Kingdom, there is a major imperative on us to encourage an even greater and more significant modal shift in the use of bus and rail. Wales is one of the few parts of the United Kingdom where the long-term decline in bus use has stopped and been reversed. To a large extent, that was a result of our policy on free bus travel for pensioners and the disabled. We are looking to build on that, working with bus companies to make bus travel even more attractive and accessible. Clearly, we are still very early in that process, and we realise there is still a very significant amount we can do in that policy area. We are working with the UK Government on the very important policy development of congestion charging and road pricing, as a way of reducing traffic growth.

Q708 Chairman: I take it from that answer that you would be looking at best practice in other countries, like the US and other European countries.

Andrew Davies: Very much so.

Q709 Hywel Williams: Can I refer back to my previous question? Are you planning on the assumption that demand will increase and therefore supply will have to be found? Are you planning that they will remain stable or decline? Which way are you looking?

Andrew Davies: Our assumption is that all the projections are, and our assumption is, that energy demand will grow. It is not something we welcome, and we will be doing everything we can to reduce energy use. But all the projections are that energy demand will grow. Clearly, given Wales's industrial and economic structure, we have companies like Corus and the metal industry, which are very significant users of energy. The aluminium industry is another one.

Q710 Mr Jones: You mentioned sections 36 and 37 of the Electricity Act and described this new power as an anomaly. Can you explain why you see that as such; and what would be the benefits of transferring those powers to the Assembly?

Andrew Davies: It was at the time of Cefn Croes wind farm development, which I opened last year, which is the largest onshore wind farm in the UK at the moment, that the then Energy Minister felt that it was anomalous that as a government we had no *locus* in this; that it was a matter first for Ceredigion Council and then for himself and the DTI to determine. On that basis we argued that we should have similar powers to the Scots in terms of planning consent for power stations over 50 megawatt. We have been discussing this with DTI and the Wales Office, both at political, ministerial and official level. The current situation is that we are still discussing that with the UK Government. No decision has been made yet.

Q711 Mark Williams: Do you know when there will be an outcome to those discussions? Originally it was hoped that in 2003 there would be an outcome, but as yet there has been nothing. What is your perception on when?

Andrew Davies: The current energy review has to some extent overtaken that, and that is part of the discussions that we are having with the UK Government; so I think that particular decision has been put on hold until the outcome of the review is known.

Q712 Albert Owen: Going back to wind farms, you mentioned Cefn Croes and the largest one in the UK here in Wales, and also a number are spotted around the coast. There are three in my constituency that are relatively small but well-established. We found in this inquiry that there is significant opposition to wind farms, not just on land but also at sea. How do you think we can collectively manage this problem of opposition?

Andrew Davies: Certainly all the opinion polls that have been done on a UK and all-Wales level have shown that people understand the need for addressing the so-called energy gap, but also the need for renewable energy. The overwhelming majority of people in opinion poll after opinion poll have said they support a wide range of renewable technologies, but particularly onshore wind. I am aware, as we all are, that there is a very vociferous opposition to wind farms, as indeed there are to many developments. I am sure, as elected representatives, we get lobbied regularly on applications for mobile phone masts. Clearly, there will be opposition to any form of energy production, whether tidal barrage, tidal lagoon or any other form. I think a majority of people feel that given the challenge of global warming, wind farms are a necessary part of the mix, but I do accept that there is a vociferous minority that are against it.

Q713 Mark Williams: Amongst that opposition, many allude to the fact that there is a bias in the *Route Map* towards wind farms, as opposed to other forms. How do you address that?

Andrew Davies: I do not think there is a bias in there. I repeat what I said in my introduction: at the moment, in terms of renewable energy, onshore wind is the only really commercially exploitable form of energy production that will help make a significant contribution to energy production in the foreseeable future. I know it is very much a caricature of our position that, as a Minister, I am trying to cover the whole of Wales in wind farms and that I am hell-bent on this. Nothing could be further from the truth. In fact the TAN 8 process was very, very carefully designed to look at a wide range of factors and criteria, particularly those areas of Wales which, in terms of wind power, could make a significant development, but taking into account visual impact, and MOD issues such as tactical low-flying areas; and we felt that TAN 8 presented a measured and strategic approach. In Scotland and other parts of the UK there has been a different approach, which has been less strategic and more based on free-for-all. I think that other parts of the UK may well feel that our approach is the more desirable one, and we felt it was the right way to go.

Q714 Albert Owen: It is interesting that you mention the planning process and the TAN 8 guidelines, because that is one of the biggest criticisms that we are hearing; that it favours wind farms, and they get the go-ahead over other projects. There is obviously some need to convince the public or even convince local authorities when action groups are consulted that TAN 8 is there. Do you feel that it can be improved even further?

Andrew Davies: The basic point is that you will get applications for wind farm development anyway, as they are finding in Scotland and in England; so these applications would come in anyway irrespective of whether or not we had TAN 8. We felt that the measured approach, through technical advice after consultation, was the best way forward, and then we would hopefully have agreement on which areas of Wales were the best in terms of exploitation, particularly of wind in this case. Clearly, that is a matter of judgment. Others may feel that it was better to have a free-for-all. However, I think the idea that we would not be getting applications for wind farm

development in Wales if we did not have TAN 8 is quite erroneous; and the evidence in Scotland and England is that you would be getting them anyway; but at least we have a concerted approach for doing so now, based on objective criteria.

Q715 Albert Owen: Do you think local authorities are helping or clouding the issue when it comes to the consultation process?

Andrew Davies: Clearly, the design of TAN 8 was done after consultation and we will work very closely with local authorities, and they will be the primary recipients of any planning application; and then it is a matter for them to make a judgment on whether or not they approve any application. Clearly, if they turn an application down, then there is a method for hearing those appeals. Clearly, local authorities will continue to play a key role in any planning consent regime.

Q716 Mark Williams: We all agree that we are looking for a mix of different means of generation. You described wind power as an interim technology; and, again, notwithstanding the issues on technological viability of wave and tidal power, if we were going to construct some time line of opportunity, how far behind do you think wave and tidal technologies are behind an emphasis to date on wind farms?

Andrew Davies: The assessment we have had from experts in the field is that the tidal stream and wave technology is likely to be 10 to 15 years, because it is very difficult to say with any degree of certainty. This form of technology—who would have thought twenty years ago that a whole new industry would have grown up around mobile phones? If anybody had asked how quickly mobile phones would reach a mass market, I do not think anybody at that time would have said it would have been less than twenty years! Our best assessment at this time—and I do not know whether Ron wants to come in on this—is that it would be 10 to 15 years, but clearly if there is a technology which is proven technically and which is also attractive to investors, then possibly it could be before then; but our best judgment is 10 to 15 years.

Q717 Chairman: Dr Loveland, you have been very shy in coming forward!

Dr Loveland: If you look forward to 2020, bearing in mind the uncertainty that the Minister has suggested, which is always there, we should have some very strong marine renewable operations around the coast of Wales—wave/tidal; and hopefully the Severn barrage as well. By 2020 we would expect to see very significant marine. Can I also comment in regard to the discussion on TAN 8? There are many words in TAN 8 on onshore wind, because that, as the Minister has said, is the area where we are getting the applications. But there are also lots of words on the other technologies as well, where TAN 8 is extremely supportive.

Q718 Hywel Williams: For the Severn barrage we have seen costs of 10 billion. On what is that based, as far as you know? Is it based on academic

research or are there companies that are bidding for this now, and is that the ballpark figure that they are working to?

Andrew Davies: The cabinet received a presentation from the Severn Tidal Barrage Group, which is made up of major construction companies—Taylor Woodrow, MacAlpine, Balfour Beatty and Alstom, I believe. Their assessment was based on the construction costs in the late 1980s—I believe 1989—which they have calculated on the basis of subsequent construction industry inflation and other factors; so it is a rough estimate at this stage. They believe that given the scale of energy production, which could be between 5% and 7% of the UK's total energy needs, and given the revenue stream that they would receive, as I mentioned—for example the River Rance has been generating electricity quietly for forty years on a very predictable basis—they believe that it is a commercial proposition and one that they can make work.

Q719 Hywel Williams: You mentioned in your paper the "significant European Commission-driven environmental legislation constraints" that need to be overcome if the barrage were put in place. Can you give us more detail of those constraints and how they might be overcome, and how difficult it would be?

Andrew Davies: The Severn estuary does have a very high level of European designation. It is a special area of conservation; and we are very mindful of that. That is why, in our submission to the UK Government, we have asked for very comprehensive environmental impact assessments to be made, as well as economic and financial impact assessments. We are not ducking this issue. However, we feel that given the overwhelming consensus that global warming is a phenomenon that is occurring and given the fact that it is likely to lead to rising sea levels, an increased frequency of severe weather incidents, which include tidal surges—and the Severn estuary has the second tidal range in the whole of the world—given the very significant urban development in places like Cardiff, Newport, Bristol and Gloucester and other urban developments around the estuary, that the Severn barrage would also have a role to play like the Thames barrage in helping to control those tidal surges. We feel that since we last pressed, as part of the UK-wide Energy White Paper three years ago, the energy situation in terms of the costs and supply of fossil fuels, as well as the almost universal acceptance that global warming is happening, that the context has changed very significantly. Therefore, any downsides in terms of environmental impact may well be a price worth paying in terms of energy production and environmental protection.

Q720 Hywel Williams: Can I pursue that a little? Perhaps I am wrong, but I thought the Habitat Directive was in respect of specific situations rather than broad global effects like rising sea levels! Given the effect that the barrage might have, would the Directive not prevent its building in that it would be, for example, impossible to create a similar environment elsewhere, as has been done in Cardiff and when the water outside here was created? Would that not specifically prevent a barrage?

Andrew Davies: That is why we are requesting that the environmental impact assessment is undertaken, to test these propositions. The evidence from northern France in the River Rance, is that there is now greater biodiversity upstream of the barrage than existed previously. I am not a technical expert, but I understand that the river estuary has a high level of sediment in suspension, and as a result light cannot penetrate the riverbed. After the barrage has been built, much of that sedimentation is deposited, and it leads to a greater range of flora and fauna. We are accepting that there may well be changes. However, if I can contrast it with Cardiff Bay, it is not proposed that there be a permanently impounded area of water; there will be tidal movements. That is the whole reason for building it obviously. It may well be that there will be greater biodiversity. However, our belief is that the challenge of global warming will inevitably lead to environmental changes in areas such as the Severn estuary; and, as ever in government, you have to balance various considerations. We think that this is certainly well worth considering. But it is only by a full environmental impact that we can test these propositions.

Q721 Hywel Williams: Given the thrust of the Directive, therefore, would there need to be a derogation from a particular aspect of it in order to allow this development to succeed?

Dr Loveland: If I could just say a few words about the process, which we know quite well, as some of you are aware, because of the situation with Mostyn Docks, where we went through a very similar procedure. First, it is a case for the developer to prove there is no adverse impact. If it is thought that there would be an adverse impact, obviously you have to go to a case for overriding public interest; you have to look at alternatives and then consider the possibility of compensation. In the case of the Severn barrage you have a very interesting situation. Obviously one does not know until the studies are done, but it is not clear whether there will be an adverse impact *per se* because the barrage will tame the tides; it will take a lot of sediment out of the water, as the Minister has said; there will be increased biodiversity. First of all, that is an open question. The overriding public interest is that obviously you will be concerned with the global warming mitigation effects of the barrage. In regard to alternatives, everybody accepts that it will not be an issue in respect of the Severn barrage because we need a whole range of clean energy sources, including tapping the tides if at all possible. As for the compensation, that is an interesting one. If the barrage actually increases biodiversity and produces environmental benefits—if you have gone through all that and you still have a problem, the route then is through a derogation to Brussels, but there is a whole series of steps before you get there.

Q722 Hywel Williams: The barrage has been promoted in some ways as an alternative to the development of nuclear power. I have seen figures suggesting that two nuclear power stations would not then be needed. If the barrage did not go ahead—this is highly speculative, but would that change the Welsh Assembly Government's stance on nuclear energy in general, do you think?

Andrew Davies: I think opposition to nuclear energy is based on a wide range of factors. Clearly, there are major issues to do with the secure management of nuclear waste and there is a lot of public concern about that. In an opinion poll that was done by BBC Wales at the beginning of this year the overwhelming majority of people supported our view about energy production, as reflected in the *Energy Route Map*. Given our existing generating capacity, that also is likely to come through renewable energies, particularly onshore wind; but also energy production that is planned on the back of the importation of LNG through Milford Haven with the likelihood of one, if not two, gas-fired power stations in South Wales, as well as the possibility of another one at Uskmouth near Newport. Our belief is that there will be a very significant increase and enhancement of energy production in Wales; therefore we think it unlikely that investor would want to invest in a new nuclear power station. Over and above that, one of the clear messages that came through the energy summit that the First Minister and I chaired just before Christmas, was a view of energy producers that if a green light was given to nuclear energy production, it is almost certain that people need some form of government or public sector underwriting, if only for the management of nuclear waste. Therefore, from the point of view of a market or investors, that will represent a more secure investment and would distort what is currently the most heavily regulated market in Europe. So there is a concern amongst energy producers that that would distort the market and therefore would undermine the case for other forms of energy production, whether that be gas, renewables, or any other form of energy.

Q723 Nia Griffith: I welcome your very positive stance on the Severn barrage, and you have given us a very clear indication as to what might be done to alleviate the environmental impact. I would just like to ask what other consideration you are giving to other projects, not necessarily as an alternative to the barrage but things like the tidal lagoons and the marine current turbines perhaps to use in other areas of Wales.

Andrew Davies: I, and we as a government, have a very open mind on a wide range of renewable energy technologies, as I said earlier on. Our position on tidal lagoon is, again, that we have an open mind. It may well be that there is a place for tidal lagoon technology; however, it is clear that the proponents—and there has been one in south-west Wales in the Swansea Bay area—have asked for a very significant investment of public funds, and we feel that that is not justified. We have worked with DTI in looking at the costings of the proposals, and my understanding is that the costs of those are very significant. As with any form of energy production, there are some very serious and environmental issues that need to be addressed. The ball is basically in the court of the development proposers to come forward with those ideas and to go for a full economic financial environmental impact assessment. As I said, they are asking for significant public funds in order to underwrite the investment.

Q724 Nia Griffith: If they were able to raise those funds elsewhere, would you be willing to reconsider the issues?

Andrew Davies: Our view is the same as the DTI; the proponents should come forward with those proposals. If they have commercial backing, then obviously it can go through the full planning consent route. As part of that, they will have to bring forward a comprehensive environmental impact assessment. Clearly, that is our position. If they can get financial backing, that is a matter for them.

Q725 Mark Williams: Presumably the Swansea experience that you have mentioned applies equally to schemes suggested in North Wales and Pembrokeshire as well.

Andrew Davies: Very much so.

Q726 Albert Owen: Can we go on to the nuclear issue? Your paper is confident that sufficient energy generation be supplied from a non-nuclear option over the next 10 to 15 years. You said earlier that the business sector was not fully confident in nuclear, yet the CBI in Wales is very pro-nuclear, so I wondered if you could deal with that one! How do you anticipate getting the base load supply that is needed for heavy industry? You mentioned LNG as one option. Do you have any other options?

Andrew Davies: Our assumption is that for the foreseeable future clean-coal technology and cleaner gas technology, and obviously the latest generation of gas-fired technology—the combined cycle gas turbine at Baglan Bay built by GE is the most efficient form of gas turbine that is available. Our assumption is, based on current technology, that it will be fossil fuels for the foreseeable future that will provide the base load. That is why, three years ago and now, we said to the UK Government that we were very interested in working with them to develop clean-coal technology. It obviously covers a whole range of technologies, whether it is from FGD at Aberthaw through to underground gasification, or indeed what has been pioneered in the US is the carbon capture of carbon dioxide and the sequestration and safe storage of that. Clearly, given that Wales has hundreds of years of coal reserves, we feel very strongly that clean coal has a role to play in that. Maybe, if as much investment had been made in developing clean coal technology as has occurred in gas, we would be in a much better position in Wales when dealing with the challenges faced by energy production.

Q727 Albert Owen: I would like you to respond on the business interest and private money and a level playing-field, because the CBI is coming out pro-nuclear.

Andrew Davies: My understanding is that the CBI would be representing more the energy users rather than the energy producers, and what I was feeding back from the energy summit was the view of energy producers and their concern that any undertaking to go ahead with nuclear power would distort the market. I can understand the concerns of business that obviously a supply of affordable energy is of paramount interest, particularly in Wales, where we have a high proportion of GDP generated by manufacturing, and obviously some of it heavy industry. I understand their concerns, but our view

is that given the projected increase in energy production, particularly around gas, that should address their concerns about a secure and affordable supply of energy.

Q728 Albert Owen: Your position is very clear, but I still want to push you on this issue. If the UK energy review comes out pro-nuclear, the worry that Welsh businesses will have, and particularly the nuclear industry, is that many of the skills will just go across the border into England, and that will not be of economic benefit to Welsh manufacturing and the skills base. Could you respond to that?

Andrew Davies: As I said earlier on, we are part of the UK, whether a UK policy context or indeed part of the UK grid. We cannot declare UDI. Clearly, if there were any proposal for a nuclear power station anywhere in Wales, that would be a matter for the developers to come forward with that, and clearly if it were over 50 megawatt as a government we would not have a role in the formal planning process. Nevertheless, as I said, the overwhelming majority view in Wales, as expressed through opinion polls, has been that our policy reflects the overwhelming views of the people of Wales. However, in terms of the planning process it would be a matter for any developers to come forward and it would be dealt with under the normal planning process.

Q729 Albert Owen: I would add that the Welsh public are becoming more pragmatic towards nuclear, but that is a difference of opinion that we will have. I am very pleased that the Welsh Assembly Government has supported the plans to extend Wylfa because of the unique circumstances with Anglesey Aluminium and the smelter process there; but some people think that this is a contradictory position. I welcome it: I am pro-nuclear and pro the extension. If it were not for the Sellafield issue, then I think safe nuclear generation could go many years beyond the date specified at Wylfa. How do you respond to some who say there is a contradictory position?

Andrew Davies: I understand they feel that way, but I do not share that. I think there is a difference between extension of an existing nuclear power station and a new build. Our position on Wylfa is also heavily influenced by the fact that Anglesey Aluminium is a major employer on the island. It was a significant contributor towards the island's wealth as well as its employment, and it is heavily dependent on a supply of affordable electricity from Wylfa. If that were not the case, we might not necessarily argue for an extension of the life of Wylfa. Nevertheless, we have pressed the UK Government; they are very aware of our view, and they have a great deal of sympathy with it, but clearly they are considering that very carefully. There are very significant issues to be addressed.

Q730 Albert Owen: Have you any indication of how they are going to view it?

Andrew Davies: Not at this stage. We have made the case because of its impact on Anglesey Aluminium and the island, but there have obviously been meetings and an exchange of correspondence between not just myself but

the First Minister to the DTI on this issue. We still continue to make the case strongly for an extension.

Q731 Albert Owen: You mentioned the unique circumstances, which obviously I agree with, on Anglesey Aluminium. They were built together uniquely as a kit, with one supplying the other. If there is no nuclear option in Wales in the future, that would be put at risk, and it would be very difficult to get the load base from any other source. Can you comment on that? I know you will not make the decision, but if there were a pro-nuclear decision, then do you think the existing sites are probably the best place for them?

Andrew Davies: Even if there were, for the sake of argument, a proposal to build a new nuclear power station on Anglesey to supply Anglesey Aluminium, given the fact that Wylfa is planned to be decommissioned in 2010, and if there is not to be an extension, there is no way that a new nuclear power station could be built, given the current consent regime, before 2010. Even if there were an extension of four or five years on Wylfa, again it would be highly unlikely that a nuclear power station could be built by the time that Wylfa was decommissioned. There are very practical economic planning issues to be addressed in that area. That is why we are pressing the UK Government for an extension so that other options, which may include nuclear, are considered. Our views obviously still remain about new nuclear build. Clearly, we are very aware of the issues and that is why we have asked for an extension; but there are practical problems in terms of the time taken to generate an alternative source of energy.

Q732 Mr Jones: Minister, we visited Tower Colliery this morning and heard there is about 250 million tonnes of coal that could be exploited. How much of that could we use, do you think?

Andrew Davies: As I said in my earlier response, we have argued very strongly that given the known coal reserves in Wales, clean coal has a very major role to play. We are very dependent currently on Aberthaw in terms of energy production in South Wales, and therefore a supply of domestic and Welsh coal is very important. That may include not just in terms of energy production but also in terms of supply of coking coal for the steel industry, predominantly Corus at Port Talbot. We argued very strongly three years ago, as we do now, that clean coal should be an important part of the mix. I was particularly interested, with your visit to the States, to look at this amongst other forms of energy production.

Q733 Mr Jones: I happen to agree with you, Minister: clean coal obviously has a part to play, certainly within Wales. Aberthaw relies on Tower Colliery, and Tower Colliery is going to close shortly, we have heard; so have you identified any sources of coal for Aberthaw and Port Talbot?

Andrew Davies: My understanding is that the proposed open-caste site at Fros-yr-Fran near Merthyr Tydfil—part if not all of that will go to Aberthaw, but clearly there are legal issues regarding the planning consent around that, as you will be aware. We would very much welcome the Welsh coal industry

supplying Aberthaw, and when I visited Aberthaw power station earlier this year RWE, the company, were very keen that it be supplied locally. The local plant management were very keen to use Welsh coal because the alternative is to import coal obviously. That is my understanding in terms of supply locally.

Q734 Nia Griffith: When we had the Tower Colliery people before us they mentioned that if new deep mining is not started soon, we will lose the skills base and will not be able to pass on those skills. Do you see any future for deep mining in Wales; and, if so, what steps do you think we should be taking now to secure that future?

Andrew Davies: We are aware of this issue. In fact, Tower have said this; Tyrone Sullivan has said that there is a danger. That is why in principle we have supported the development of an indigenous Welsh coal industry, not just in terms of supply but in terms of the labour force. There have been proposals—plans at Margam and also other deep mines in the Neath Valley at Aber-pergwm and elsewhere, and that is why in broad policy terms we have supported the development of deep mining, partly because of the issue of retaining a skilled workforce that understands the industry.

Chairman: Minister, thank you for your written and oral evidence, and that of your colleague Dr Ron Loveland and all your staff. You have always been very helpful to us; you have almost become an honorary member of the Welsh Affairs due to your frequency of attendance. We look forward to seeing you again very soon. If you feel that in the light of the questions we have posed, particularly in relation to conservation and efficiency and your remarks about public transport that you would like to send a short memorandum about that, we would be very pleased to receive it.