Pecyn dogfennau cyhoeddus

Y Pwyllgor Deisebau

Lleoliad:
Ystafell Bwyllgora 1 - Y Senedd

Dyddiad:
Dydd Mawrth, 4 Rhagfyr 2012

Amser:
09:00

Cynulliad Cenedlaethol Cymru
National Assembly for Wales

I gael rhagor o wybodaeth, cysylltwch a:

Naomi Stocks
Clerc y Pwyllgor
029 2089 8421
deisebau@cymru.gov.uk

Agenda

1. Cyflwyniad, ymddiheuriadau a dirprwyon 09:00

2. P-03-150 Safonau Canser Cenedlaethol - Trafodaeth o'r tystiolaeth Gweinidogol 09:00 - 09:10

3. Deisebau newydd 09:10 - 09:20

3.1 P-04-439 : Diogelu coed hynafol a choed treftadaeth Cymru ymhellach (Tudalen 1)

3.2 P-04-440 : Dywedwch 'Na' i werthu asedau Ysbyty Bronllys (Tudalen 2)

3.3 P-04-441 : Gwaith i Gymru - Work for Wales (Tudalen 3)

3.4 P-04-442 : Sicrhau cymorth da i blant anabl a'u teuluoedd sy'n agos i'w cartrefi (Tudalen 4)

4. Y wybodaeth ddiweddaraf am ddeisebau blaenorol 09:20 - 11:00

Iechyd a Gwasanaethau Cymdeithasol

4.1 P-04-424: Cadw gwasanaethau yn Ysbyty Castell-nedd Port Talbot (Tudalennau 5 - 20)

Addysg a Sgiliau

4.2 P-04-346 Gofal di-dâl i blant 3 a 4 oed yng Nghymru (Tudalennau 21 - 22)

4.3 P-04-427: Cyfraith newydd ynghylch y Gymraeg (Tudalennau 23 - 25)

Amgylchedd a Datblygu Cynaliadwy

4.4 P-04-383 Yn erbyn dynodiad Parth Perygl Nitradau ar gyfer Llyn Llangors (Tudalennau 26 - 29)
4.5 P-04-417 Achubwch Draeth Morfa ac ataliwch Lwybrau Troed Cyhoeddus 92 a 93 rhag cau (Tudalennau 30 - 35)
4.6 P-04-422: Ffracio (Tudalennau 36 - 83)

4.7 P-04-423: Cartref Nyrsio Brooklands (Tudalennau 84 - 97)

Tai, Adfywio a Threftadaeth

4.8 P-03-263 Rhestru Parc y Strade (Tudalennau 98 - 101)
4.9 P-04-322 Galw am ryddhau gafael Cadw ar eglwysi yng Nghymru (Tudalennau 102 - 103)
4.10 P-04-403 Achub Plas Cwrt yn Dre/ Hen Senedd-Dy Dolgellau (Tudalennau 104 - 110)
4.11 P-04-420 Adeiladu Cofeb i Owain Glyndŵr (Tudalennau 111 - 112)

Cydraddoldeb

4.12 P-03-301 Cydraddoldeb i'r gymuned drawsryweddol (Tudalen 113)

P-04-439 : Diogelu coed hynafol a choed treftadaeth Cymru ymhellach

Geiriad y ddeiseb:

Rydym o'r farn bod coed hynafol a choed treftadaeth Cymru yn rhan hanfodol ac unigryw o amgylchedd a threftadaeth y genedl.

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i'w diogelu ymhellach, er enghraifft, drwy:

- roi dyletswydd ar yr Un Corff Amgylcheddol newydd i hyrwyddo cadwraeth coed o'r fath drwy roi cyngor a chymorth i'w perchenogion, gan gynnwys cymorth grant lle bo'n angenrheidiol;
- diwygio'r ddeddfwriaeth Gorchymyn Cadw Coed bresennol i'w gwneud yn addas i'r diben wrth ddiogelu coed hynafol a threftadaeth, a hynny yn unol â chynigion Coed Cadw (the Woodland Trust);
- cynnwys cronfa ddata o'r coed a gofnodwyd ac a nodwyd yn ddilys gan y Prosiect Helfa Coed Hynafol fel casgliad o ddata i'w gadw gan unrhyw olynydd i Gynllun Gofodol Cymru, gan gydnabod y rhain fel 'Coed o Ddiddordeb Arbennig' a rhoi'r wybodaeth hon i awdurdodau cynllunio lleol fel y gellir ei chynnwys yn eu systemau gwybodaeth ddaearyddol, er gwybodaeth.

Prif ddeisebydd: Coed Cadw Cymru

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 4 Rhagfyr 2012

Nifer y llofnodion: 5,320

P-04-440 : Dywedwch 'Na' i werthu asedau Ysbyty Bronllys

Geiriad y ddeiseb:

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i wrthod unrhyw ymgais gan Fwrdd Addysgu Iechyd Powys i dynnu asedau oddi ar Ysbyty Cymunedol Bronllys drwy gau neu symud ei Uned Strôc, na thrwy roi gwasanaethau newydd neu gyfleusterau gwasanaeth y rhanbarth mewn man arall. Yn hytrach dylai roi cyfarwyddiadau i'r Bwrdd Iechyd ddyfeisio strategaeth i adeiladu neu ailadeiladu, gwella a/neu ymestyn cyfleusterau'r Ysbyty GIG hwn, a'r gwasanaethau a'r arbenigedd adnoddau; ac i gadw ac ailadeiladu'r ased cymunedol gwerthfawr hwn fel canolfan ragoriaeth.

Rydym yn galw ymhellach ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i roi cyfarwyddiadau i'r Bwrdd Iechyd roi Ysbyty Bronllys yng nghanol ei strategaeth ar gyfer darparu gwasanaethau iechyd oedolion a phobl hŷn yn Ne-ddwyrain Powys am yr 50 mlynedd nesaf, ac i ryddhau'r adnoddau angenrheidiol i wireddu hynny.

Prif ddeisebydd: Michael Eccles

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 4 Rhagfyr 2012

Nifer y llofnodion: 2,200

P-04-441 : Gwaith i Gymru - Work for Wales

Geiriad y ddeiseb:

Yng ngoleuni'r ffigurau diweddaraf ar gyfer diweithdra ymhlith ieuenctid Cymru, mae Plaid Ifanc yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i gymryd camau effeithiol a chadarnhaol i sicrhau dyfodol gwell ar gyfer y genhedlaeth hon o bobl ifanc.

Yn benodol, rydym yn galw ar Lywodraeth Cymru i (1) creu cynllun i gefnogi 30,000 o brentisiaethau ac ehangu'r rhaglen Recriwtiaid Ifanc; (2) datblygu rhaglen hyfforddiant mewn gwaith modern ac uchel ei werth i gynyddu gallu pobl ifanc i gael eu cyflogi; a (3) ymestyn pwerau benthyca awdurdodau lleol i £350 miliwn er mwyn iddynt allu cynorthwyo busnesau bach a chanolig eu maint gyda chronfeydd benthyca lleol. Yn ogystal â'r camau hyn, rydym yn galw ar Lywodraeth Cymru i wneud pob peth o fewn ei gallu i wyrdroi'r sefyllfa bryderus hon ac i greu gwaith i Gymru er gwaethaf y toriadau i'r sector cyhoeddus gan Lywodraeth y DU.Mae'r cyfnod hwn yn un anodd, ac mae Plaid Ifanc yn credu bod y toriadau sy'n cael eu gorfodi arnom gan lywodraeth y glymblaid yn San Steffan yn gwbl afresymol. Fodd bynnag, ni ddylai'r toriadau hynny atal Llywodraeth Cymru rhag gweithredu yn awr i helpu'r economi yng Nghymru. Mae diweithdra ymhlith yr ifanc wedi cyrraedd y lefelau gwaethaf erioed, ac mae diweithdra'n waeth yng Nghymru nag mewn rhannau eraill o'r Deyrnas Unedig, sy'n peri pryder; mae'n ymddangos ein bod yn mynd yn groes i'r duedd yn y DU. Mae perygl gwirioneddol y bydd y genhedlaeth hon o bobl ifanc rhwng 16 a 24 oed yn troi'n genhedlaeth goll. Maent mewn perygl o wynebu cynni ariannol am weddill eu bywydau oherwydd yr argyfwng swyddi y maent yn ei wynebu heddiw. Nid yw cael chwarter o'n pobl ifanc yn ddi-waith yn sefyllfa gynaliadwy, ac mae'n gam cyntaf ar lwybr peryglus at anawsterau economaidd i Gymru am ddegawdau i ddod. Rhaid cymryd camau effeithiol a chadarnhaol yn awr i wyrdroi'r duedd frawychus hon a sicrhau ein bod yn creu gwaith i Gymru.

Prif ddeisebydd: Cerith Rhys Jones

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 4 Rhagfyr 2012

Nifer y llofnodion: TBC

P-04-442 : Sicrhau cymorth da i blant anabl a'u teuluoedd sy'n agos i'w cartrefi

Geiriad y ddeiseb:

Rydym ni, y rhai sydd wedi llofnodi isod, yn galw ar Lywodraeth Cymru i sicrhau cymorth da i blant anabl a'u teuluoedd sy'n agos i'w cartrefi.

Er mwyn cyflawni hyn, rydym ni'n galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i sicrhau bod Bil Addysgol (Cymru) yn cynnwys egwyddor 'darparu'n lleol' yn y Bil a fydd yn:

- sicrhau gwasanaethau cynhwysol a hygyrch yn yr ardal leol, ac

- yn rhoi dyletswydd ar asiantaethau lleol i gyflwyno gwasanaethau cynhwysol a hygyrch os nad ydynt yn bodoli, drwy waith cynllunio gwell, partneriaeth a thrwy gynnwys rhieni lleol yn y gwaith.

Prif ddeisebydd: Scope Cymru

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 4 Rhagfyr 2012

Nifer y llofnodion: 2,415

P-04-424 : Cadw gwasanaethau yn Ysbyty Castell-nedd Port Talbot

Geiriad y ddeiseb

Rydym ni, y rhai sydd wedi llofnodi isod, yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i wyrdroi'r penderfyniad i symud yr holl Feddygon CT2 o Ysbyty Castell-nedd Port Talbot yn yr hydref heb ymgynghori â'r cyhoedd o flaen llaw. Mae'r penderfyniad hwn yn golygu na fydd gwasanaethau meddygol aciwt yn cael eu darparu yn yr ysbyty, a bydd rhaid i gleifion deithio i Dreforys yn Abertawe neu i Ysbyty Tywysoges Cymru ym Mhen-y-bont ar Ogwr i gael gwasanethau o'r fath. Mae Ysbyty Castell-nedd Port Talbot yn ysbyty Menter Cyllid Preifat o'r radd flaenaf, ac mae trigolion yr ardal hon am i wasanaethau sydd mor hanfodol gael eu cadw yn ysbyty Castell-nedd Port Talbot.

Prif ddeisebydd: Carolyn Edwards

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 2 Hydref 2012

Nifer y llofnodion: 193 o lofnodion. Casglwyd dros 5000 o lofnodion gan ddeisebau cysylltiedig.

CYNGOR IECHYD CYMUNED
COMMUNITY HEALTH COUNCIL
ABERTAWE BRO MORGANNWG

Cyngor Iechyd Cymuned Abertawe Bro Morgannwg
Canolfan Fusnes Stryd y Dŵr
Stryd y Dŵr
Aberafan
Castell-nedd Port Talbot SA12 6LF

Abertawe Bro Morgannwg Community Health Council
Water Street Business Centre
Water Street
Aberafan
Neath Port Talbot SA12 6LF

ffôn | tel: 01639 892271
Email:office@abmchc.org.uk
www.communityhealthcouncils.org.uk/abm

26 October 2012

Ms Naomi Stocks
Clerk of the Petitions Committee
National Assembly for Wales
Cardiff Bay
Cardiff
CF99 1NA

Dear Naomi

I refer to the letter from your Committee Chair dated 10 October 2012 ref P-04-424.

The Community Health Council met with the Health Board in June this year to discuss the issues concerning Neath Port Talbot Hospital's doctor shortages. I attach an extract from the minutes of that meeting from which you will note that the CHC agreed that the issue was an urgent service change.

In these circumstances the guidance issued by Welsh Government in March 2011 is that there is no requirement for public consultation.

The CHC did attend most of the weekly planning meetings and press and staff briefings were issued following every meeting so the matter was openly communicated. The CHC was reassured that whilst this one aspect of services at NPT Hospital was being withdrawn on the grounds of safe patient care, there are several other moves of services in to the hospital that will ensure it continues to play a full role in the provision of healthcare to all residents of the ABM Health Board area.

I am sure the Health Board, in their response to you, will give you more information but should you require anything further from me please get in touch.

Yours sincerely,

Phil Will

Phillip Williams
Chief Officer

EXTRACT FROM THE MINUTES OF THE
ABERTAWE BRO MORGANNWG COMMUNITY HEALTH COUNCIL [ABM CHC]
EXECUTIVE COMMITTEE MEETING
HELD IN THE BALLROOM, ABERAVON BEACH HOTEL
ON TUESDAY 26 JUNE 2012 AT 9.00 AM

EC59/12 To consider an urgent service matter

Senior representatives, Executives and Clinicians attended for this item. There had been a problem with provision of appropriate medical cover for acute medical provision at NPT Hospital for some time. Despite strenuous efforts to recruit, the lack of cover was becoming a serious safety issues. Wales Deanery, responsible for the education and training of CT1 and CT2 doctors, would no longer be allowing those grades to undertake acute medical placements at NPT Hospital.

It was **AGREED**:-

1. The EC acknowledges the considerable efforts made to date to obtain suitable cover and the difficulties the health board still faces in maintaining medical cover.
2. As the position has now become untenable the health board has no option but to withdraw acute medical services from NPT Hospital from September. The EC agrees that this move falls within the category of 'urgent service change' under the guidance for engagement and consultation issued in March 2011.
3. In accordance with paragraph 48 of that guidance the EC notes that the health board will commence work immediately to prepare contingency plans. A working group will be established to meet weekly with effect from Monday 2 July.
4. The CHC agrees to participate in the planning process and it nominates Mrs Sheila Rano, Chair of NPT Local Committee to sit on this working group.
5. The contingency plans should have a risk assessment undertaken for each of the options considered by the working group (para 48 of the guidance refers).
6. The report to the health board should set out the changes and their impact together with action plans to mitigate any potential adverse impact (para 49 of the guidance). We understand a paper is to be presented to the public part of the Board meeting on Thursday 5 July.

Mr William Powell AM
Chair of Petitions Committee
Welsh Assembly Government
Cardiff Bay

Re: Removal of Emergency Services from Neath Port Talbot Hospital.

Dear Mr Powell
The hospital situation within ABM Trust remains the same with both the Trust and Community Health council refusing to acknowledge that the removal of emergency services from Neath Port Talbot Hospital is causing great difficulties for residents in Neath Port Talbot particularly those in the upper reaches of the valley areas. Discussions held yesterday with a Trust representative made it quite clear that the situation was not going to change and it would appear that no effort will be made to recruit doctors to the site and that despite holding so called information giving sessions they will be adhering to their “remodelling “ programme.
Morriston Hospital remains a building site with poor access, very few disabled car parking facilities and poor signage.
The situation is further exacerbated by the situation within the ambulance trust who within the last two months have had as many as 15 ambulances waiting outside the emergency department waiting to discharge patients.
There has been poor communication to the public as to what constitutes the minor injury department at NPT hospital and within the last month a mother was turned away with her child, forced to drive to Princess of Wales Hospital whereupon he had a fit and was found to have a ruptured spleen.

Thank you for your attention

Sincerely

Carolyn Edwards

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol
Abertawe Bro Morgannwg
University Health Board

Our Ref: PR/AH/cw

Date: 2nd November 2012

ABM Headquarters
One Talbot Gateway, Seaway Parade,
Port Talbot
SA12 7BR

01639 683302
WHTN: 1787 3302

Mr William Powell AC/AM
Chair, Petitions Committee
National Assembly for Wales
Cardiff Bay
Cardiff
CF99 1NA

Dear Mr Powell,

I write in response to your letter dated 10 October 2012 referring a petition received with regard to Acute Medical Services at Neath Port Talbot Hospital.

You have requested our views on the subject of the petition which was as follows:

"We the undersigned call on the National Assembly for Wales to urge the Welsh Government to halt the decision to move all CT2 Doctors from Neath Port Talbot Hospital in the autumn, without prior consultation with the public. This decision will mean that acute medical services will not be provided at the Hospital, and patients will be forced to travel to Morriston in Swansea, or the Princess of Wales in Bridgend for such services. Neath Port Talbot hospital is a state of the art, PFI hospital, and the people of this area want such vital services to be retained at Neath Port Talbot hospital."

The Abertawe Bro Morgannwg University Health Board took the difficult decision to cease the acute medical intake in Neath Port Talbot Hospital on grounds of clinical safety in July 2012. The primary reason for this was a lack of available doctors with the right level of experience and competence to provide acute medical care.

The context to this was that the Wales Deanery alerted the Health Board during 2011/12 that it would not continue to support the placement of core training Year 2 Doctors (CT2) in Neath Port Talbot Hospital from August 2012. The two main reasons for this were the lack of senior supervision for these doctors particularly out of hours, and the limited range of services on site which affected the training experience.

As it was clear this would have major implications for the maintenance of an acute medical service at the Hospital the Health Board explored a number of options to

maintain the acute medical service without relying on these doctors in training as up to 10 doctors were needed to maintain the service. These options included redistribution of senior doctors from other sites, recruitment of specialist non-training Doctors from within the United Kingdom or European Union (EU), or from outside the EU. The Health Board recognised that any such options would not provide a sustainable service and would maintain the service whilst engagement with the public and stakeholders took place on longer term, sustainable proposals for services within ABM and across South Wales through the Health Board's Changing for the Better Programme and South Wales Programme.

The first option of redistributing the 30 Specialist Registrars in Medicine across the four acute hospital sites within ABM was not considered feasible as 24/7 cover requires a minimum of 10 doctors per acute hospital site and there are 30 such doctors in total within the Health Board. Clearly this would have meant all rotas would be unsustainable and this would not have been supported by the Wales Deanery. It was also not possible to substantially increase the number of training posts in Wales at this level.

As a result the Health Board pursued the option of seeking to recruit additional doctors with appropriate clinical experience at a Specialist Registrar grade. A recruitment campaign within the UK/EU was unsuccessful in securing suitable candidates and wider international recruitment was pursued. Initially the response was favourable and we offered 10 candidates posts. However, following pre-employment checks and decisions by individuals not to accept our offer of employment the Board was only able to recruit four suitable Doctors. The Health Board then sought to recruit to the other 6 posts by advertising for clinical fellows. These are research based doctors who provide out of hours medical cover. Unfortunately it was not possible to recruit sufficient doctors in this way to ensure we could continue to provide a safe and reliable emergency medical service at Neath Port Talbot Hospital. This was the clear view of the senior clinicians at the Hospital which led to the report to the meeting of the Health Board in July recommending the urgent transfer of emergency medicine from Neath Port Talbot Hospital. A copy of the report considered by the Board is attached. This report sets out the reasons for the transfer and the engagement with partner organisations that took place, including with the Community Health Council and Neath Port Talbot County Borough Council.

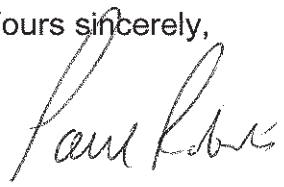
Following the approval of the Board to the proposed transfer a great deal of detailed planning was undertaken over a short timescale to ensure a smooth transition to the revised arrangements from September 2012.

As at the end of October 2012 it is pleasing to report that the revised arrangements are working effectively. Residents from Neath Port Talbot are now receiving acute medical care in other ABM hospital sites and , where appropriate are transferring back to Neath Port Talbot Hospital for onward care, one the most acute phase of their care has been completed. It is important to note that the Hospital has retained the nurse led minor Injuries service and therefore continues to provide urgent care to residents of Neath Port Talbot and further afield. In addition the Hospital continues to provide specialist care and surgical procedures as well as a comprehensive range of out patient services.

The Health Board is currently undertaking a 3 month engagement with the public and partners on our longer term proposals for health and health services locally through Changing for the Better. This is based on a proposal that services are provided to people either in their home or within community settings, recognising that people may need to travel to obtain more specialist care. This engagement is due to conclude in December, following which there will be detailed discussions with the Community Health Council on the need for formal consultation.

I trust this letter has provided you with sufficient information on this matter. Should you wish to be provided with any further details please contact me.

Yours sincerely,



Paul Roberts
Chief Executive

Enc.

SUMMARY REPORT	ABM University Health Board
Health Board	**Date 5th July 2012** **Agenda item 2(ii)**

Subject	**Urgent Service Change – Acute Medicine at Neath Port Talbot Hospital**
Prepared by	Neil Miles. Programme Manager, Unscheduled Care
Presented by	Alexandra Howells, Director of Primary, Community and Mental Health Services

Purpose		
To propose an urgent change to acute medicine at Neath Port Talbot Hospital as a result of a deterioration in medical staffing arrangements.	**Decision**	x
	Approval	
	Information	
	Other	

Corporate Objectives					
Safety	**Quality**	**Efficiency**	**Workforce**	**Health**	**Governance**
X	X		X		X

Executive Summary

MAIN REPORT		ABM University Health Board
Health Board		**Date 5th July 2012** **Agenda item 2(ii)**
Subject	**Urgent Service Change – Acute Medicine at Neath Port Talbot Hospital**	
Prepared by	Neil Miles, Programme Manager, Unscheduled Care	
Approved by	Alexandra Howells, Director of Primary, Community and Mental Health Services	
Presented by	Alexandra Howells, Director of Primary, Community and Mental Health Services	

PURPOSE

To propose an urgent change to acute medicine at Neath Port Talbot (NPT) Hospital as a result of a deterioration in medical staffing issues from August 2012.

KEY ISSUES

Medical Staffing Shortages

The Wales Deanery notified the Health Board in 2012 that they would be withdrawing CT2 Doctors in training from NPT Hospital from August 2012. The Deanery indicated that they did not consider NPT Hospital as being able to provide suitable training for this grade of doctor because of a lack of senior supervision from a Registrar grade doctor, and the lack of experience provided in a service which only dealt with a selected range of emergency patients.

The CT2 doctors are the most senior doctors present in NPT Hospital out of hours and are essential to the safe delivery of an acute medical service where emergency patients may arrive at the hospital any time of the day or night. They are responsible for patient care when Consultants are not present onsite, for example, at night.

Initially the Health Board tried to implement a short term solution to the medical staffing problem to ensure that plans for acute medicine in NPT Hospital could be fully considered as part of the Health Board's "Changing for the Better" programme. This is considering the future model of unscheduled care services across the Health Board. The short term plan was to attract a minimum number of non training grade doctors with the appropriate skills and competences to a number of fixed term posts in order to maintain a 24/7 acute medical service. Ideally this number would have been between 10 and 12 to provide full cover for sickness, study leave and annual leave, but the Health Board decided that a minimum of 8 would be sufficient to make the plan more realistic for the short term.

At this time the Health Board was already attempting to find locum doctors to fill existing gaps on the rota and this was not proving to be successful. Options to spread out doctors from other parts of the Health Board were considered but were not feasible in terms of shortages on the other sites and issues regarding training, Consequently an international recruitment visit was made to Dubai in Autumn 2011. Although this was successful in attracting 4 doctors to work in NPT Hospital from early 2012, only 1 of these doctors has been found to have the appropriate level of experience and competence to work safely on the acute medical rota.

In parallel with the above the Health Board developed opportunities for academic research doctors to provide an out of hours, on call service commitment to NPT Hospital and in partnership with Clinical Consultants (with Academic research responsibility) in Swansea Hospitals and Swansea University, to complete a research programme in their chosen specialty. Whilst this is not ideal in terms of day time cover, it helps with the 24/7 rota and was therefore considered acceptable as a short term option. However, despite expectations in May that this would deliver a substantial number of doctors the recruitment process has in fact only delivered 4 doctors, as 2 doctors withdrew at a late stage . The advert was reopened but there have been no suitable applicants.

This means that in early June the Health Board only had 5 out of the minimum 8 doctors required to deliver the acute medical service. Senior doctors advised that this would make the safe delivery of the service unsustainable and did not feel that there were any other options that could be explored.

This must also be considered in the context of ongoing consultant vacancies in NPT Hospital relating to Care of the Elderly (COTE), Gastroenterology and Cardiology. The COTE post has been vacant for two years, gastroenterology for 6 months and cardiology 3 months. Consequentially, instead of 11 Consultants covering the rota and other services there are 7.5 requiring Consultants to work over and above their usual commitments to full these gaps.

Urgent Service Change

This immediate need for service change in NPT Hospital is in advance of the *Changing for the Better* programme. Consequently this would fall into the remit of 'Urgent Service Change' as outlined in *Guidance for Engagement and Consultation on Changes to Health Services,* (Welsh Government, 2011 p. 15-16). (guidance appended).This applies when an NHS body believes that a decision has to be taken on an issue immediately in the interests of the health service or because of a risk to the safety or welfare of patients or staff. In such a case, the relevant NHS body may not be able either to engage or consult but has to notify the CHC immediately of the decision taken and the reason why no consultation has taken place

Health Board representatives (Director of Planning, Chief Operating Officer, NPT Locality Director, NPT Clinical Director, NPT Intermediate Care Lead and Service Manager

Medicine) briefed the Community Health Council (CHC) Executive Committee on 26th June 2012 on the current position and the need for urgent change. The CHC:

- Noted the case for Urgent Service Change as presented
- Agreed that a decision to implement Urgent Service Change could be considered by the Board
- Supported the need to nominate a CHC member or officer to form part of the Planning and Implementation Group
- Supported the need for wider engagement and consultation via *Changing for the Better* programme

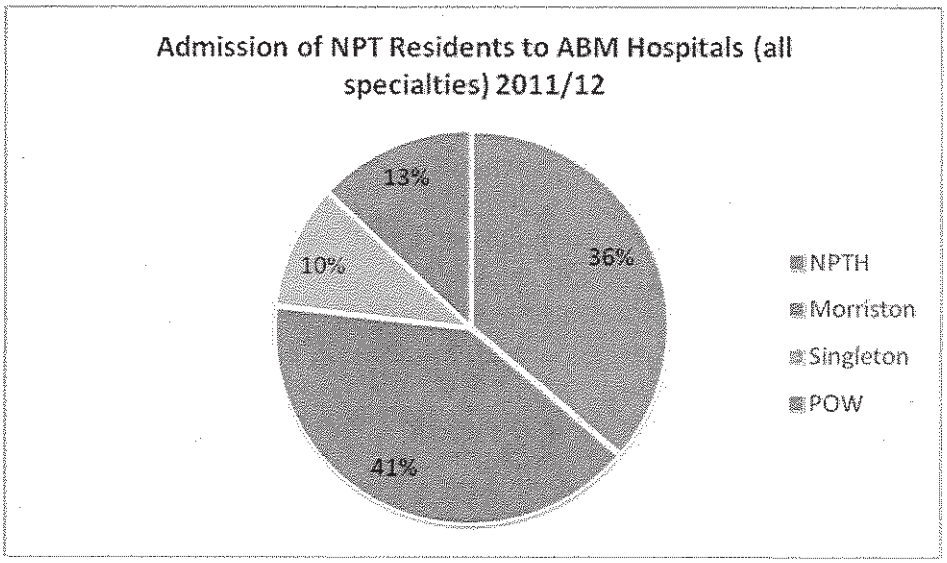
Proposed Changes to Acute Medicine at NPT Hospital

The current acute medical service at NPT Hospital provides a "selected" medical intake which means that is already excludes some clinical conditions on the basis of the ability of the service/workforce to provide safe and effective care for their emergency conditions. The service does not deal with certain categories of patients for example, stroke, heart attacks and those who may require surgical intervention.

The service currently sees just over 9,000 patients each year. Approximately one third of these patients arrive by ambulance, just over a third following a visit to their General Practitioner (GP) and about one fifth arrive as 'walk-in's. The other attendees present following other contact e.g. referral from clinic or prison service.

The majority of patients attend the hospital between 10am and 8pm, 7 days a week. Approximately half of these patients are discharged by the Physician teams without requiring an inpatient stay. Of the patients admitted about one third are discharged within 24 hours.

86% of the patients who attend the acute medical service are NPT residents. However, significant numbers of NPT residents also use other acute medical services, in particular Morriston Hospital, as shown on the following chart.



The urgent service change plans that need to be developed and implemented over the next 2 months need to identify alternative pathways for the current number of people using the acute medical service at NPT Hospital. This is likely to involve flows to both the Princess of Wales Hospital, Morriston Hospital and Singleton Hospital, depending on geographical and clinical factors, as well as whether patients have called an ambulance or have been referred by their GP.

The impact on these other sites needs to be planned in detail in terms of Emergency Departments, Assessment Units, ward capacity, clinical support services, emergency transport and social services support. This will require significant changes in service models given recent pressures on Emergency Departments. It is anticipated that NPT Hospital will need to play a key role in repatriating patients from these other hospitals when they have finished their acute treatment, if they cannot go straight home. This will be critical in maintaining patient flow through in patient services at all sites.

Resources and workforce will need to be considered as an integrated part of these plans. Transport for patients, visitors and staff will also be a key issue.

A planning group has been established to progress the work, chaired by Paul Stauber, Director of Planning, with clinical and operational management input and representatives from the Local Authority, WAST, and the CHC. It is anticipated that a final plan will be developed by the end of July.

Future Role of Neath Port Talbot Hospital

Despite these essential changes to the acute medical service at NPT Hospital the Health Board is committed to its future development as a vital part *of Changing for the Better* programme. This role will involve a combination of the development of specialist centres of

excellence that will support patient pathways across the Health Board, as well as the acceleration of the integrated models of primary, community and hospital care for the local population.

Recent developments at the hospital include:

- state-of-the-art MRI and CT scanners providing high tech diagnostic imagery
- the Health Board's Neuro rehabilitation service
- the new Women's Health Unit which provides sexual health, advice and treatment
- the new laser clinic which transferred from Morriston Hospital

Services which will be opened in the near future include:

- work on the new NHS IVF facility is well underway and the service is scheduled to start in 2013
- work has also started on a purpose-built investigation, treatment and diagnostic unit for Urology patients, who suffer from illnesses like bladder cancer and urinary conditions
- the hospital is scheduled to become a centre of excellence for endoscopy services – where 'magic eyes' are used for patients with stomach or bowel conditions
- providing Breast Surgery services for the Health Board area from Summer 2012
- another centre of excellence: for short stay orthopaedic surgery. This will include foot, ankle, upper limb and specialist knee surgery
- consolidating Elderly Mentally Ill assessment services at NPT Hospital into a modern, purpose built facility with single en-suite rooms

Integrated models are already being developed in collaboration with social services colleagues. These models will be critical in targeting the specific areas of health need within the local population, particularly in terms of people with chronic conditions and frail older people.

It is important to note that the immediate change to the acute medical service does not affect the Minor Injuries service which currently sees approximately 25,000 people per annum or the GP Out of Hours service which has recently been changed to an " in house" model of provision, led by local GPs.

This change does not affect the availability of the Midwifery Led Maternity Unit.

The change does not affect the availability of outpatient services in NPTH. Additional opportunities will be explored to create capacity for rapid access to these clinics to avoid some of the emergency demand on other sites. This means there will continue to be Consultant presence on site from a variety of specialties.

In addition, consideration is underway through *Changing for the Better* of the development of single site solutions for the following services:

- Intensive rehabilitation – NPT Hospital already accommodates the neuro rehabilitation unit and there may be opportunities to consider the centralisation of other specialist and intensive rehabilitation services to support the need for a 7 day service and development of specialist expertise e.g. orthogeriatric care
- Rheumatology – options are being considered to provide a single site therapy and infusion unit for the Health Board

Other ideas and suggestions will be considered as part of the "Changing for the Better" Programme.

RECOMMENDATION

The Board is asked to:

- Note the deterioration in the medical staffing position for acute medicine at NPT Hospital.
- Note the agreement of the CHC to consider an urgent service change in accordance with the guidance, outside the Changing for the Better consultation process
- Note the requirement to implement an extensive communications plan to ensure there is a clear understanding of the service change plans.
- Note the important role of NPT Hospital in the future plans of the Health Board, with the final service models to be agreed through the Changing for the Better process.
- **Agree the urgent service change to acute medicine at NPT Hospital, noting that detailed planning is now underway with regard to the implications for patients, service delivery, workforce, finance, and transport.**

ABMU Health Board is progressing it's *Changing for the Better* programme in order to establish sustainable models of care to meet the future needs of its population. This programme recognises that change will be needed to many clinical services across the Health Board, affecting all hospital sites, and the whole pathway of care. The main drivers for the change recognise the need to deliver better quality and outcomes for patients within the context of shortages of medical staff in a number of specialties and a challenging financial environment. The programme is expected to agree a final plan by 2013.

However, the Health Board is facing an immediate problem with regard to the acute medicine service at NPT Hospital because of medical staffing problems. Although there have been difficulties with medical recruitment over recent years the position will deteriorate significantly from August 2012 in spite of efforts over the last 12 months to recruit a variety of additional doctors. This makes the 24/7 provision of acute medical services unsustainable, and requires a service change in advance of the *Changing for the Better Programme* to be agreed by the Health Board.

Early discussions have taken place with the Community Health Council to alert them that an urgent service change could commence in September, outside the usual engagement and consultation processes, subject to Board approval. This is in line with the provision contained in *Guidance for Engagement and Consultation on Changes to Health Services,* (Welsh Government, 2011).

Subject to this decision the implications of the service change need to be planned in detail, both in terms of where patients will need to go for acute medical services from September, but also in terms of the future development of services at NPT Hospital. NPT Hospital provides many excellent facilities and services and it will continue to place a key role in the future clinical strategy of ABMU Health Board. Some of these plans are already under development, some of them will emerge from the Changing for the Better programme.

Communication and engagement with staff, GPs, patients, the public and key partners such as the Local Authority and WAST will be critical during the next few months, together with ongoing support from the Community Health Council. A comprehensive communications plan will be put in place.

Key Recommendations

The Board is asked to

- Agree the urgent service change to acute medicine at NPT Hospital, noting that detailed planning is now underway with regard to the implications for patients, service delivery, workforce, finance, and transport.
- Note the important role of Neath Port Talbot Hospital in the future plans of the Health Board, with the final service models to be agreed through the Changing for the Better process.

Assurance Framework

These changes are required to ensure safe services are provided

Next Steps

Detailed planning work to be undertaken alongside intensive engagement

Corporate Impact Assessment	
Quality and Safety	HCS 7
Financial Implications	To be confirmed
Legal Implications	N/A
Equality & Diversity	Impact to be assessed

P-04-346 Gofal Di-dâl i Blant 3 a 4 yng Nghymru

Geiriad y ddeiseb:

> Galwn ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i sicrhau bod gofal di-dâl i blant 3 a 4 mlwydd oed ar gael mewn modd mwy hyblyg ledled Cymru er mwyn galluogi rhieni, yn enwedig rhieni sy'n gweithio, i ddewis pryd a lle y maent yn cael mynediad at ofal plant di-dâl.

Prif ddeisebydd: Zelda Smith

Y dyddiad yr ystyriodd y Pwyllgor y ddeiseb am y tro cyntaf: 29 Tachwedd 2011

Nifer y deisebwyr: 67

Leighton Andrews AC / AM
Y Gweinidog Addysg a Sgiliau
Minister for Education and Skills

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-03-346
Ein cyf/Our ref LA/07179/12

William Powell AM

William.powell@wales.gov.uk

7 November 2012

Dear William,

Thank you for your letter dated 22 October about free childcare for 3-4 year olds.

You will wish to be aware that the planning of such provision is a matter for the individual local authority. However, in planning the provision they are expected to take the needs of children and their parents/carers into consideration and put in place arrangements to ensure that as many families as possible are able to access the free provision.

My officials have carried out some initial work to look at the variation suggested and have found that there is less variation across Wales than initially perceived. All local authorities offer 10 hours with most local authorities providing 2 or 2.5 hours over or 4 or 5 days. Where there is variation it is due to local authorities offering additional support, which they are entitled to do, over and above the 10 hours.

With regard to issuing more direct guidance, we are aware that most local authorities already operate through a mixed approach for the provision of Foundation Phase places, with the vast majority offering provision through maintained and non-maintained settings.

Before deciding on changes to guidance, I have asked my officials to undertake further investigation with each local authority to clarify how they deliver their Foundation Phase provision for children below statutory school age in both maintained and non maintained settings.

I will write to you again when I have a full picture.

Yours sincerely,

Leighton Andrews AC / AM
Y Gweinidog Addysg a Sgiliau
Minister for Education and Skills

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.Leighton.Andrews@wales.gsi.gov.uk

P-04-427 : Cyfraith newydd ynghylch y Gymraeg

Geiriad y ddeiseb

Rydym yn galw ar Lywodraeth Cymru i greu cyfraith newydd ynghylch y Gymraeg oherwydd teimlwn nad yw'r cyfreithiau presennol yn mynd yn ddigon pell o ran diogelu hawliau siaradwyr Cymraeg. Ar hyn o bryd, nid oes gofyn i'r sector preifat gael cynlluniau na pholisïau iaith Gymraeg ac nid oes yn rhaid iddo drin y Gymraeg a'r Saesneg yn gyfartal. Er bod gan siaradwyr Cymraeg fwy o hawliau bellach, mae angen iddynt gael yr hawl i allu defnyddio'r iaith ym mhob agwedd ar eu bywyd dyddiol.

Prif ddeisebydd: Gethin Kurtis Sugar

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 16 Hydref 2012

Nifer y llofnodion: 93

Leighton Andrews AC / AM
Y Gweinidog Addysg a Sgiliau
Minister for Education and Skills

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-427
Ein cyf/Our ref LA/07182/12

William Powell AM

committeebusiness@Wales.gsi.gov.uk

7 November 2012

Dear William,

Thank you for your letter dated 22 October about the petition submitted by Gethin Kurtis Sugar, calling for a new Welsh language law.

The Welsh Government has no plans to introduce primary legislation with regard to the Welsh language, in particular, legislation dealing with the use of Welsh by the private sector.

We are currently implementing the Welsh Language (Wales) Measure 2011 (the Measure) which confirms that the Welsh language has official status in Wales. The Measure strengthened the existing legal framework and will lead to greater clarity for Welsh speakers in terms of the service they can expect to receive in Welsh. By enabling duties to be placed on organisations to provide services in the Welsh language, the Measure leads to the establishment of rights for Welsh speakers in Wales.

The Measure created the role of the Welsh Language Commissioner as an advocate and regulator for the Welsh language. The Commissioner has powers to promote and facilitate the use of the Welsh language and impose duties on various organisations. The Commissioner's office was established on 1 April 2012 and, since then, the Commissioner has undertaken a non-statutory consultation with regard to developing Welsh language duties, known as standards.

Standards will replace Welsh language schemes. Once imposed they will place a duty on a wide range of organisations to provide services through the medium of Welsh, and the Commissioner has a range of enforcement powers to ensure that organisations comply with their standards. Certain standards may be imposed on private companies offering telecommunications, gas, water, electricity, postal, bus and railway services. Apart from these companies, however, the Government remains firmly of the view that a more appropriate approach for the majority of private sector companies will be to encourage and support their use of Welsh on a voluntary basis.

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.Leighton.Andrews@wales.gsi.gov.uk

The Welsh Government wishes to see the Welsh language thrive, and to see more opportunities for people to use Welsh in their day to day life. I believe that the Measure, alongside the Government's Welsh language strategy and Welsh medium education strategy will help us achieve that aim.

Yours sincerely,

Leighton Andrews AC / AM
Y Gweinidog Addysg a Sgiliau
Minister for Education and Skills

P-04-383 Yn Erbyn Dynodiad Parth Perygl Nitradau ar gyfer Llyn Llangors

Geiriad y ddeiseb:
'Rydym yn galw ar Lywodraeth Cymru i wrthdroi'r dynodiad Parth Perygl Nitradau arfaethedig ar fasn Llyn Llangors, sy'n debygol o effeithio ar tua 25 o fusnesau ffermio.'

Cyflwynwyd y ddeiseb gan: Kaye Davies

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 27 Mawrth 2012

Nifer y llofnodion: 43

John Griffiths AC /AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-383
Ein cyf/Our ref JG/07208/12

William Powell AM

Chair Petition's committee
Ty Hywel
Cardiff Bay
Cardiff
CF99 1NA

2 November 2012

Dear William,

Thank you for your letter dated 10 October about the petition you have received regarding the proposal to designate Llangorse Lake as a Nitrate Vulnerable Zone (NVZ). I have noted the accompanying documents which you provided with your letter.

I have set out below the background which led to Llangorse Lake being identified as a proposed Nitrate Vulnerable Zone.

Member States are required to review their implementation of the EC Nitrates Directive every four years. The outcome of the review is used to propose new or amend NVZ's and/or the measures in the Action Programme.

Following consideration of the consultation responses to the latest Review of the Nitrate Directive in Wales, issued in December 2011 and recommendations made to us by the Environment Agency, the Welsh Government issued letters to identified owners or occupiers of land which falls within a proposed NVZ area. The letter set out that the Welsh Government was minded to designate identified NVZ areas in Wales.

Within this process of reviewing and proposing NVZ's in line with the requirements of the EC Nitrates Directive there is an opportunity for those land owners/occupiers to appeal against the proposals. The grounds for appeal are clearly set out in Part 2 of the Nitrates Pollution Prevention (Wales) Regulations 2008. All appeals received in relation to the current NVZ proposals are being considered by Planning Inspectors as appointed by Welsh Ministers.

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.John.Griffiths@wales.gsi.gov.uk

In relation to the appeal raised by owners/occupiers of land within the proposed NVZ around Llangorse Lake, a public hearing was held on 16 October and the Planning Inspector will make a final decision by the end of November. Appeals decisions are binding on the Welsh Government.

In response to your question about possible financial assistance for those whose farms are within a designated NVZ, I can advise you that financial assistance will be available to farmers within newly designated Nitrate Vulnerable Zones. This will be through a combination of advice and grant aid aimed at tackling pollution at source and intercepting/mitigating pollution pathways.

Advice regarding compliance with Nitrate Regulations is available through Farming Connect's Farm Advisory Service. Farm advisory visits, together with specialist support from an approved adviser will provide on-farm advice and training. All eligible businesses can apply for up to 80% funding towards this service.

Capital investment aimed at tackling pollution at source and intercepting and mitigating pollution pathways will be available through Glastir Efficiency Grants. This scheme will be prioritised for farms in NVZs through a revision of Priority Water Catchments. Eligible technologies include:

- Rainwater separation – rainwater goods and protection, pipe work and associated yard reinstatement, roofing over livestock gathering areas, diversion kerbing;
- Slurry separators and associated equipment;
- Roofs/ covers and floating covers over slurry stores;
- Roofs over manure stores;
- Slurry, manure and dirty water stores – new, extensions and modifications, with associated reception pit, slurry channels and fixed equipment;
- Low trajectory slurry spreading equipment (e.g. trailing shoe spreaders, shallow injectors) – *not applicable to Glastir Entry Option 14 ;*
- Recycling – pipe work, storage tanks, water troughs; and
- Rainwater collection – guttering, pipes, filters, storage tanks, 1st flush diverters, pumps, associated controls and electrics.

A Nutrient Management Plan including soil analysis will be needed for Glastir Efficiency Grants, which can be part funded through Farming Connect. The plan will recommend slurry/manure applications and any inorganic fertiliser use and will provide a Storage Report. This will illustrate the current situation and improvements required to reach the five month storage requirement. The report will include actions to reduce the quantity of material to be stored such as clean/dirty water separation and may also include recommendations on storage.

Grants can be awarded for a proportion of the costs of the eligible items which improves manure /slurry storing facilities for the purpose of increasing the storage period allowing farmers to make best use of their manure and slurry. Matching slurry/manure application to

crop needs will reduce nutrient leaching to water courses addressing defuse pollution. Up to 40% of eligible costs, subject to a maximum grant per holding of £50,000 will be available.

For Young Farmers, 50% of eligible costs is available. Grants will be made subject to a minimum grant contribution of £2,000. The amounts available through Glastir Efficiency Grants exceed those of the previous Catchment Sensitive Farming Scheme.

Yours,

John

John Griffiths AC / AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

P-04-417: Achubwch Draeth Morfa ac ataliwch Lwybrau Troed Cyhoeddus 92 a 93 rhag cau

Geiriad y ddeiseb
Darn o'r morlin rhwng Gwaith Dur Port Talbot a Thraeth Sgêr yw Traeth Morfa, gerllaw Gwarchodfa Natur Cynffig . Dim ond ar droed neu ar feic y mae'n bosibl cael mynediad i'r traeth, felly mae wedi dod yn fan gwerthfawr o heddwch a thawelwch. Yn 2011 ffurfiwyd y grŵp cymunedol , â€œSave Morfa Beach (Friends of Morfa) â€ mewn ymateb i fygythiad drwy Waith Dur TATA a oedd yn ceisio atal mynediad i'r traeth. Mae hyn yn cynnwys cau dau lwybr troed cyhoeddus o arwyddocâd hanesyddol sy'n cael llawer o ddefnydd ac sy'n arwain i'r traeth: Llwybr troed 92 o Longlandâ€™s Lane ym Margam a Llwybr Troed 93 o Warchodfa Natur Cynffig. Mae'r DEISEBWYR yn cefnogi ymgyrch sefydliad Save Morfa Beach (Friends of Morfa) i ddiogelu'r hawliau tramwy ar hyd llwybrau troed 92 a 93 a chadw'r mynediad i Draeth Morfa. Rydym yn gofyn i Lywodraeth Cymru a Chyngor Castell-nedd Port Talbot gynnal a chadw'r holl hawliau tramwy ar Margam Burrows, ac ymgysylltu â Tata Steel er mwyn sicrhau bod mynediad cyhoeddus i'r traeth yn parhau.

Gwybodaeth ategol: Pa un ai a yw hawliau tramwy'n croesi tir preifat neu dir cyhoeddus, Cyngor Bwrdeistref Sirol Castell-nedd Port Talbot a Chynulliad Cymru sy'n gyfrifol yn y pen draw am sicrhau eu bod yn cael eu gwarchod, eu bod ar gael a'u bod yn addas i'r diben. Rydym felly'n lobïo, ond fel sefydliad nid ydym yn wleidyddol . Cafodd Grŵp ei greu ar Facebook (www.facebook.com/groups/SaveMorfaBeach/) fel proffil cyhoeddus y sefydliad.

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 2 Hydref 2012

Prif ddeisebydd: Save Morfa Beach (Friends of Morfa)

Nifer y llofnodion: 1191

Neath Port Talbot
Castell-nedd Port Talbot
County Borough Council Cyngor Bwrdeistref Sirol
Making a difference ***Gwahaniaeth er gwell***

25 October 2012 Date **Dyddiad**
01639 763305 Direct Line **Rhif Ffôn**
s.phillips@npt.gov.uk email **ebost**

Contact **Cyswllt**
Your Ref **Eich Cyf**
CEX.SB Our Ref **Ein Cyf**

Mr William Powell AC/AM
Chair
Petitions Committee
National Assembly for Wales
Cardiff Bay
CF99 1NA

Dear Mr. Powell,

MORFA BEACH

Thank you for your letter of 10 October 2012.

The Council has published 3 legal orders in connection with Footpaths 92 and 93 Port Talbot as follows:

- An extinguishment Order that effectively extinguishes part of Footpath 92;
- A Diversion order that re-routes Footpath 93;
- A Creation Order that continues a route to cross the River Kenfig and travels onto Bridgend.

I attach a plan that clearly shows the relationship between the 3 orders.

There are objections to these proposals, including those by the Friends of Morfa. As such, a Public Inquiry will be held and an independent Planning Inspector will make a decision on the Orders. This is the correct forum for these objections to be heard in the view of the Council.

Yours sincerely,

STEVEN PHILLIPS
Chief Executive

Chief Executive's Office
Swyddfa'r Prif Weithredwr

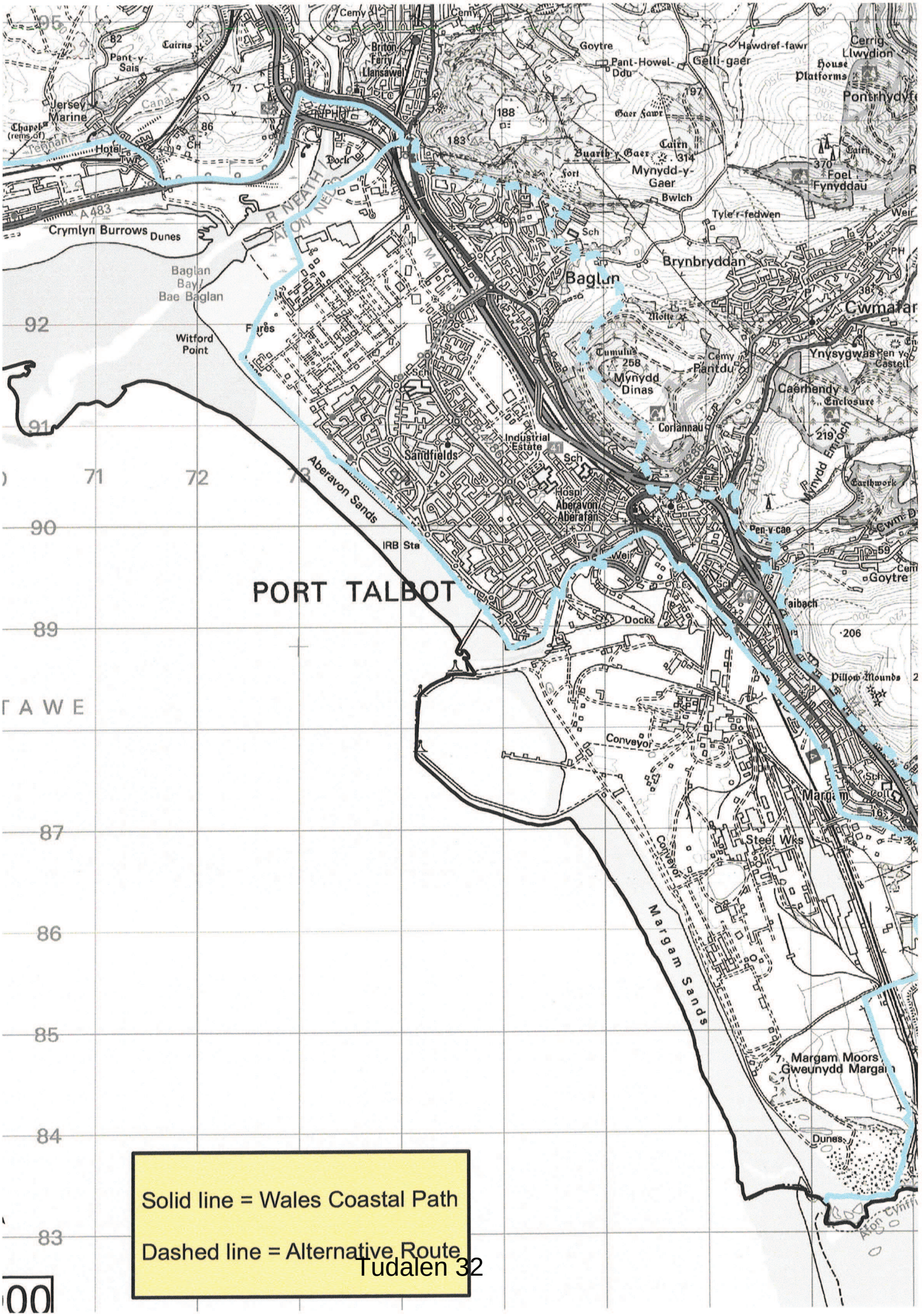
Steven Phillips
Chief Executive
Civic Centre, Port Talbot SA13 1PJ
Tel: 01639 763306 Fax: 01639 763355

Steven Phillips
Prif Weithredwr
Y Ganolfan Ddinesig, Port Talbot SA13 1PJ
Ffôn 01639 763306 Ffacs 01639 763355

www.npt.gov.uk

The Council welcomes correspondence in English or Welsh

Mae'r Cyngor yn croesawu gohebiaeth yn y Gymraeg neu'r Saesneg


PORT TALBOT
Solid line = Wales Coastal Path
Dashed line = Alternative Route

Mr William Powell AM
Chair, Petitions Committee
National Assembly for Wales
Cardiff Bay
CF99 1NA

8th November 2012

Your ref: P-04-417

cc: Richard Leonard, Environment Manager, Tata Steel

Dear Mr Powell,

Petition with respect to Public Access to Morfa Beach

I am writing in acknowledgement of your notice to us that the Petitions Committee has received a petition concerning access to Morfa Beach. We will be very pleased to offer the clarity you require and would be willing to meet members of the Committee to answer your questions.

You will be aware that Morfa Beach, between the mouth of the River Kenfig and the Port Talbot deep-water harbour, is private land. It forms part of Tata Steel's Port Talbot steelworks. While a public beach exists south of the Kenfig, the area in question is privately owned and there are no public rights of way of any kind on this beach. Visitors to the beach have entered with the tacit permission of the Company (in its existing or previous forms) and this does not affect our rights and obligations as private landowners.

The issues of the potential closure of Footpaths 92/93 and the request for access to the private Morfa Beach are not connected. The first has been mooted in order to provide a suitable new section (Footpath 94) to meet the needs of the Wales National Coastal Path (WNCP). This process has been led by the Welsh Government and Neath Port Talbot County Borough Council, and, as you may be aware, is subject to the deliberations of the Planning Inspectorate (PI). It is important to note that should the PI uphold objections to the closure of 92/93, it does not affect the matter of access to the private Morfa Beach.

Consequently, by arrangement with the local authority, the footpaths mentioned in the petition do not enter Morfa Beach area. Walkers are directed from the end of Longlands Lane on Footpath 92 to a point that takes them parallel to the beach on Footpath 93. This takes them to the public beach. The proposed Footpath 94 minimises the hazard of the existing footpaths' route over land that is part of a hazardous industrial landfill site. In addition it has the potential for further development as an amenity if the community wishes it.

Port Talbot steelworks is a major industrial site. This includes complex and hazardous operations and movement of materials using large and hazardous vehicles and conveyors. Health and safety is our priority and Morfa Beach is subject to the same standards as any other part of the steelworks site. We

TATA STEEL
Port Talbot Business Headquarters
AGO Offices, Port Talbot, Po Box 42, SA13 2NG
T: +44 (0) 1639 871111 T: +44 (0) 1639 872694 (direct) F: +44 (0) 1639 603179 robert.dangerfield@tatasteel.com
Tata Steel UK Limited Registered Office 30 Millbank London SW1P 4WY Registered in England No. 2280000

are supervised under the statutory Control of Major Accident Hazard (COMAH) Tier 1 Regulations, which have been in existence since 1999. To comply with these, we have to ensure that all visitors to the steelworks site are formally recorded, they are appropriately inducted and supervised, and finally, their exit is also recorded. The Welsh Government's former Deputy First Minister, Ieuan Wynn Jones opened the COMAH compliant visitor centre in 2008, and, owing to the Perimeter Distributor Road (PDR) development, you may be aware that a new £4 million visitor/training centre is currently being completed. It is essential to invest so many resources into the site in order to ensure the health, safety and security of all visitors to the site, however there would be significant flaws in our system if any parts of the steelworks affected by the COMAH regulations are not subject to these arrangements.

We are most conscientious about meeting our obligations to the local community with respect to health, safety and environmental care, and we have worked in partnership with the Welsh Government and the local authority with respect to finding positive solutions for the PDR and the WNCP. With respect to the matter of public access to private land on which hazardous industrial operations are managed, we feel that we must place our responsibilities regarding health and safety first.

Yours sincerely,

Robert Dangerfield
External Communications for Tata Steel in Wales

John Griffiths AC /AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-417
Ein cyf/Our ref JG/07204/12

William Powell AM

Chair Petition's committee
Ty Hywel
Cardiff Bay
Cardiff
CF99 1NA
committeebusiness@Wales.gsi.gov.uk

2 November 2012

Dear William

Thank you for your correspondence of 10 October concerning access to Morfa beach, Port Talbot.

I am aware that this matter has generated strong local feelings and that there have been discussions in the past regards these paths between officials from Neath Port Talbot County Borough Council, the Countryside Council for Wales, and Tata Steel.

I understand that Neath Port Talbot County Borough Council officials are in the process of preparing final submissions to Planning Inspectorate Wales, who deal with case work on behalf of Welsh Ministers. It would be inappropriate for me to pass opinion at this stage as it would undermine the proper consideration given by the independent planning inspector.

Best wishes,

John

John Griffiths AC / AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.John.Griffiths@wales.gsi.gov.uk

P-04-422 : Ffracio

Geiriad y ddeiseb

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i annog Gweinidog yr Amgylchedd a Datblygu Cynaliadwy i lunio Datganiad Polisi Cynllunio Mwynau Interim Gweinidogol, yn ogystal â nodyn cyngor technegol newydd, i gryfhau'r egwyddor ragofalus ynglŷn â cheisiadau cynllunio ar gyfer olew a nwy ar y tir, gan gynnwys ffracio. Rhaid dileu pob amheuaeth wyddonol resymol bod risg o effeithiau niweidiol, a rhaid rhoi'r ystyriaeth gryfaf i'r angen brys i liniaru'r newid yn yr hinsawdd.

Prif ddeisebydd: Cyfeillion y Ddaear Cymru

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 2 Hydref 2012

Nifer y llofnodion: Tua 1000

John Griffiths AC /AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-422
Ein cyf/Our ref JG/07205/12

William Powell AM
Chair Petition's committee

committeebusiness@Wales.gsi.gov.uk

8 November 2012

Dear William,

Thank you for your letter of 10 October regarding the petition on Ministerial Planning Policy. Planning policy advice is contained in both Planning Policy Wales (PPW) and Minerals Planning Policy Wales (MPPW), and together these provide the context for applications relating to onshore oil or gas development in Wales. National policy identifies the essential role that mineral planning authorities play in ensuring a proper balance between the prudent use of resources, amenity and the environment; it provides advice on how they should fulfil that role through respecting environmental limits, applying the precautionary principle, and using scientific knowledge to aid decision making.

As we made clear in our response published last month to the Environment and Sustainable Development Committee's report into Energy Policy and Planning, we are not convinced that the issues are sufficiently distinct to justify a new Technical Advice Note.

We consider that the precautionary approach advocated in national planning policy is sufficiently robust. However we will continue to work closely with the UK Government and the respective agencies to develop our understanding of the impacts of shale gas and will keep under review the appropriateness of the regulatory frameworks as this evidence comes forward.

Yours,

John

John Griffiths AC / AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

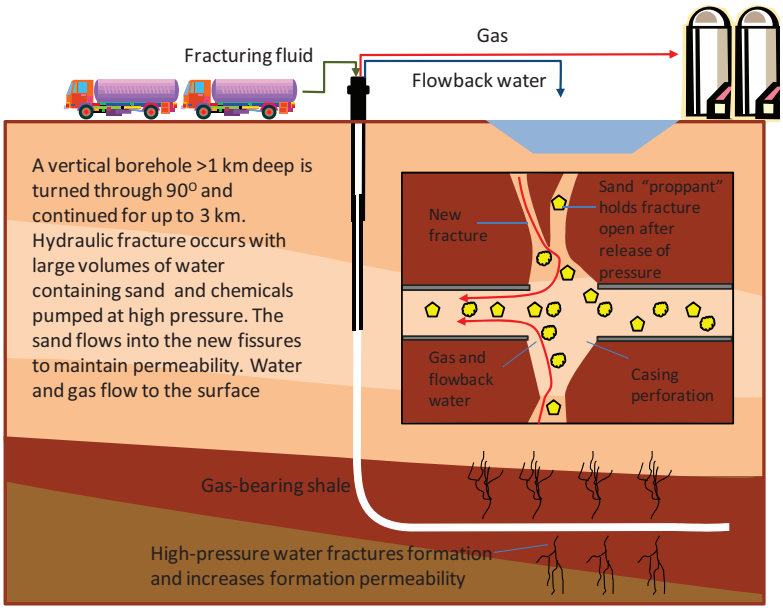
English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.John.Griffiths@wales.gsi.gov.uk

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Potential groundwater impact from exploitation of shale gas in the UK

Groundwater Science Programme

Open Report OR/12/001



BRITISH GEOLOGICAL SURVEY

GROUNDWATER SCIENCE PROGRAMME

OPEN REPORT OR/12/001

Potential groundwater impact from exploitation of shale gas in the UK

M E Stuart

Keywords

Report; shale gas; fracking; flowback water; aquifers; pollution.

Front cover

Hydraulic fracturing overview (adapted from Gregory et al., 2011)

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British Geological Survey offices

BGS Central Enquiries Desk
Tel 0115 936 3143 Fax 0115 936 3276
email enquiries@bgs.ac.uk

Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG
Tel 0115 936 3241 Fax 0115 936 3488
email sales@bgs.ac.uk

Murchison House, West Mains Road, Edinburgh EH9 3LA
Tel 0131 667 1000 Fax 0131 668 2683
email scotsales@bgs.ac.uk

Natural History Museum, Cromwell Road, London SW7 5BD
Tel 020 7589 4090 Fax 020 7584 8270
Tel 020 7942 5344/45 email bgslondon@bgs.ac.uk

Columbus House, Greenmeadow Springs, Tongwynlais, Cardiff CF15 7NE
Tel 029 2052 1962 Fax 029 2052 1963

Maclean Building, Crowmarsh Gifford, Wallingford OX10 8BB
Tel 01491 838800 Fax 01491 692345

Geological Survey of Northern Ireland, Colby House, Stranmillis Court, Belfast BT9 5BF
Tel 028 9038 8462 Fax 028 9038 8461
www.bgs.ac.uk/gsni/

Parent Body

Natural Environment Research Council, Polaris House, North Star Avenue, Swindon SN2 1EU
Tel 01793 411500 Fax 01793 411501
www.nerc.ac.uk

Website www.bgs.ac.uk
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Contents

FIGURES

TABLES

Summary

This report is a desk study to evaluate the potential risks to groundwater in the UK from exploitation of shale gas. As yet there is little information for UK so we need to look to the USA experience for transferable information.

The UK may possess considerable reserves of shale gas. Significant areas include the Widmerpool Gulf, near Nottingham, and the Elsewick field near Blackpool. Work has begun near Blackpool.

Hydraulic fracturing ("fracking") in combination with horizontal drilling is an essential part of the shale gas production process and has been in use in the USA since about 1948. Extraction involved drilling of deep horizontal wells and enhancing the natural permeability of the shale by hydraulic fracturing. Fluid is introduced at a rate sufficient to raise the downhole pressure above the fracture pressure of the formation rock. The stress induced by the pressure creates fissures and interconnected cracks that increase the permeability of the formation and enable greater flow rates of gas into the well.

Groundwater may be potentially contaminated by extraction of shale gas both from the constituents of shale gas itself, from the formulation and deep injection of water containing a cocktail of additives used for hydraulic fracturing and from flowback water released during gas extraction which may have a high content of saline formation water. Shale gas is predominantly methane of thermogenic origin with low percentages of C_2 (ethane) and C_3 (propane) hydrocarbons. Its ^{13}C isotopic signature allows it to be distinguished from shallow biogenic methane in the subsurface. Documented instances of groundwater contamination from the USA are all related to the leakage of methane into groundwater.

Fracking chemicals include hydrochloric acid, polyacrylamide, mineral oil, isopropanol, potassium chloride and ethylene glycol and low concentrations of pH buffers, corrosion inhibitors, biocides and gelling agents.

The large volumes of water required may also put pressure on groundwater resources with impacts on other uses and groundwater dependent ecosystems. Reuse of flowback water involves treatment to remove high TDS.

For UK we need to determine whether fields likely to be exploited for shale gas are overlain by significant aquifers. For aquifers at outcrop the vulnerability of groundwater to surface pollution from operations and flowback water can be informed by existing vulnerability mapping and other information. The vulnerability of groundwater to pollution from fracking operations and shale gas requires the determination of the relative depths of groundwater and shale gas reservoirs and the nature of the intervening strata.

1 Introduction

1.1 AIM OF REPORT

Demand for gas in the UK is steadily increasing, North Sea gas reserves are declining and the UK has become a net importer of gas. Shale gas drilling in the UK has been given the go-ahead by MPs in a report looking at the impact it could have on water supplies, energy security and greenhouse gas emissions (Energy and Climate Change Select Committee, 2011). In order to meet demand in the future, energy exploration may be focused on our 'unconventional' reservoirs, including shales (mudstones, claystones, and other fine-grained rocks).

Work towards extraction of shale gas began in the UK in August 2010 with the drilling of a 2700 m deep exploratory well to the Bowland Shale at Preese Hall, near Blackpool, NW England. The second phase involving hydraulic fracturing began in March 2011. Work was temporarily suspended on 1 June 2011 after a 1.5 magnitude earth quake was detected. Work began at a second site at Banks, near Southport on 22 August 2011 and at Grange Hill Farm.

The aim of this desk study is to evaluate what the potential risks to groundwater from exploitation of shale gas could be for the UK. As yet there is little information for UK so we need to look to the USA where this is a long-established technique, for transferable information.

In an assessment from the Tyndall Centre, Broderick et al. (2011) state that the potential for groundwater contamination is a key risk associated with shale gas extraction, although there is limited evidence. They cite that the US EPA has instigated a comprehensive research study into this issue and New York State has introduced a moratorium on any new wells.

1.2 SHALE GAS

Shale gas is natural gas entrapped in shale and is distinct from gas in other low-permeability reservoirs and from “conventional” gas (Gregory et al., 2011). Shales are fine-grained, clastic sedimentary rocks predominantly comprised of consolidated clay sized particles that were deposited as muds in low-energy depositional environments and may contain other minerals such as quartz, calcite, and pyrite. Deposited with these very fine-grained sediments is organic matter in the form of algae, plant, and animal derived organic debris (Arthur et al., 2009).

The shale formation is both the source and the reservoir for the natural gas, which is predominantly methane (~90%) but may also contain other hydrocarbons, carbon dioxide, nitrogen, hydrogen sulphide, and rare gases (Lapidus et al., 2000). The gas is held in natural fractures and pore spaces or adsorbed onto the organic material and minerals in the formation (Jenkins and Boyer, 2008).

Gas embedded in shale rock formations deep below the Earth's surface has long been considered inaccessible, due to high drilling costs and because shales lack sufficient natural permeability for the recovery of gas at rates suitable for large-scale production. Deep borings must be used and fractures must be engineered to enable commercial viability (Jenkins and Boyer, 2008). New horizontal drilling methods, combined with techniques to fracture the rock, have for the first time made shale gas production practical. New technology for gas production from shale formations evolved in the Barnett Shale in Texas, and its economic success has led to the rapid exploration of shale formations in many countries and has greatly increased the estimates of global natural gas reserves in the world. The areas of the world assessed for potential shale gas resources are shown in Figure 1.1.

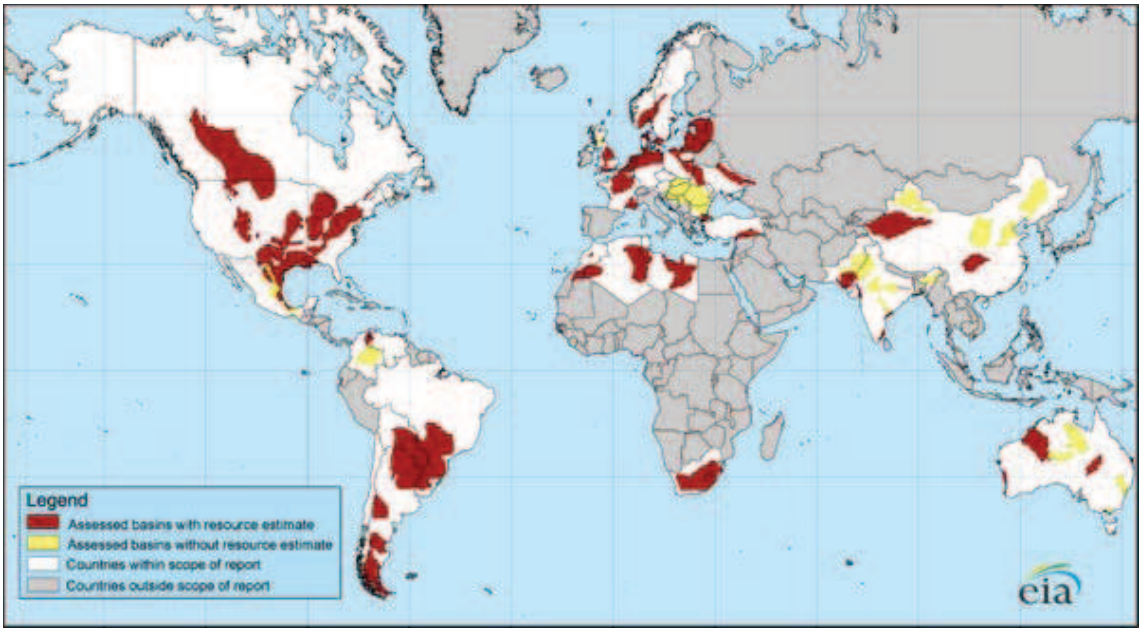

Figure 1.1 Map of world shale gas resources assessed by the US Energy Information Administration (EIA, 2011a)

1.3 EXTRACTION METHODS

Hydraulic fracturing ("fracking") in combination with horizontal drilling is an essential part of the shale gas production process and has been in use since about 1948. Horizontal drilling greatly increases the length of contact between the shale gas formation and the wellbore relative to a conventional vertical well, and a single horizontal well may replace 3 or 4 vertical wells (Arthur et al., 2009; Gjelten, 2009). Decreasing the number of wells decreases production costs and environmental risks associated with site construction, drilling, and well development, and contributes to the economic feasibility of shale gas production.

Hydraulic fracturing is a formation stimulation practice used to create additional permeability in a producing formation (Arthur et al., 2009). By creating additional permeability the migration of fluids to the wellbore is facilitated. Hydraulic fracturing can be used to overcome barriers to the flow of fluids, one of the primary reasons development of gas shales has traditionally been limited. Barriers may include naturally low permeability common in shale formations or reduced permeability resulting from near wellbore permeability impairment caused during drilling activities.

Hydraulic fracturing involves the introduction of fluid at a rate sufficient to raise the downhole pressure above the fracture pressure of the formation rock. The stress induced by the pressure creates fissures and interconnected cracks that increase the permeability of the formation and enable greater flow rates of gas into the well. The process as typically used for shale gas development involves the pumping of sand-laden water into the target shale zone. Fluids pumped into the shale creates fractures or openings through which the sand flows, at the same time the sand acts to prop open the fractures that have been created. Once the pumping of fluids has stopped the sand remains in-place allowing fluids (both gas and water) to flow back to the wellbore. After hydraulic fracturing is performed, the pumping pressure is relieved and the fracture fluid returns to the surface through the well casing. This water is referred to as "flowback" (Figure 1.2).

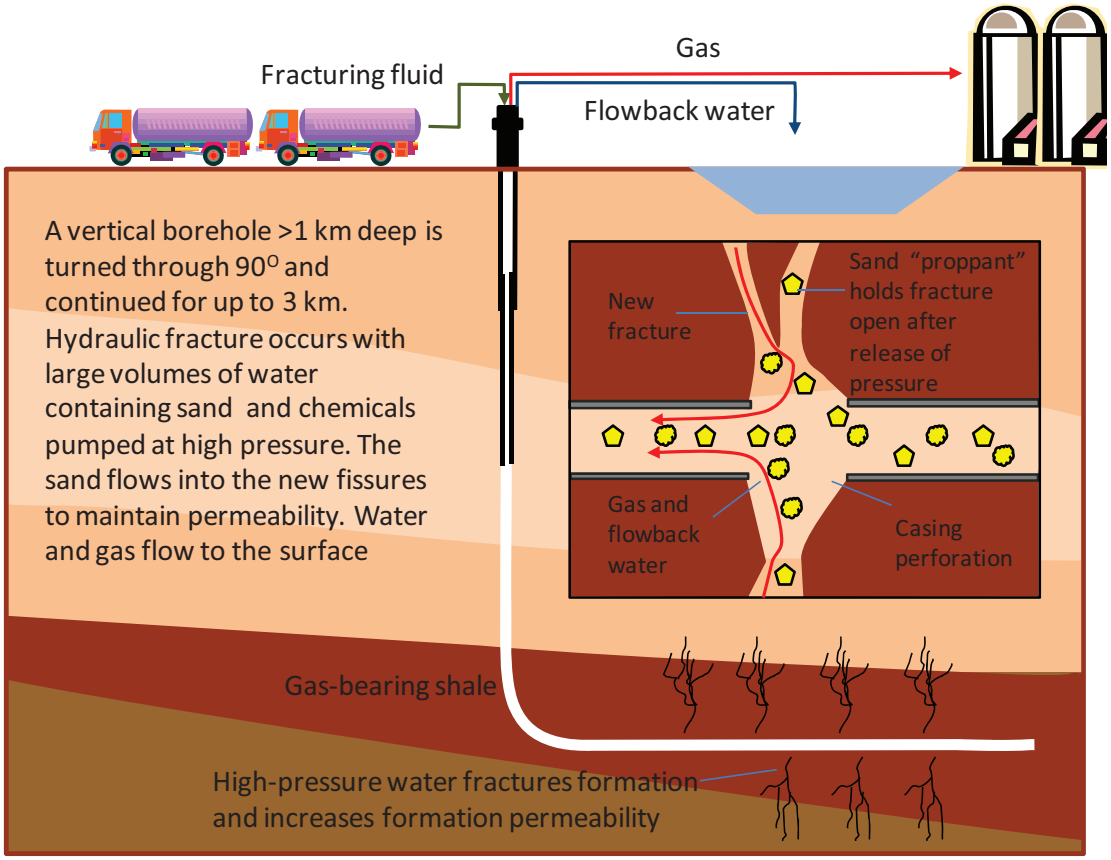

Figure 1.2 Hydraulic fracturing overview (adapted from Gregory et al., 2011)

Hydraulic fracturing of the horizontal shale gas wells is performed in stages (Arthur et al., 2009). Lateral lengths in typical shale gas development wells are from 300 m to more than 1500 m in length. Because of the length of exposed wellbore, it is usually not possible to maintain a downhole pressure sufficient to stimulate the entire length of a lateral in a single stimulation hydraulic fracture treatments of shale gas wells are performed by isolating portions of the lateral and performing multiple treatments to stimulate the entire length of the lateral portion of the well. The lifetime of an individual well may be only about 7 years (Wood et al., 2011).

1.4 USA

In the USA gas has been produced from shale in commercial quantities for nearly two centuries (Selley, 2005). The first commercial United States natural gas production (1821) came from an organic-rich Devonian shale in the Appalachian basin; wells were located and drilled with little appliance of science. (Curtis, 2002). Understanding the geological and geochemical nature of organic shale formations and improving their gas producibility have subsequently been the challenge of millions of dollars worth of research since the 1970s (Johnson and Doré, 2010). Harnessing this resource has become a multi-billion dollar international business, and has helped transform the North American market from gas starvation to guaranteed supply for 20 years or more. As with shale oil, shale gas systems are considered discrete, self enclosed systems in which the source, seal and reservoir are one and the same.

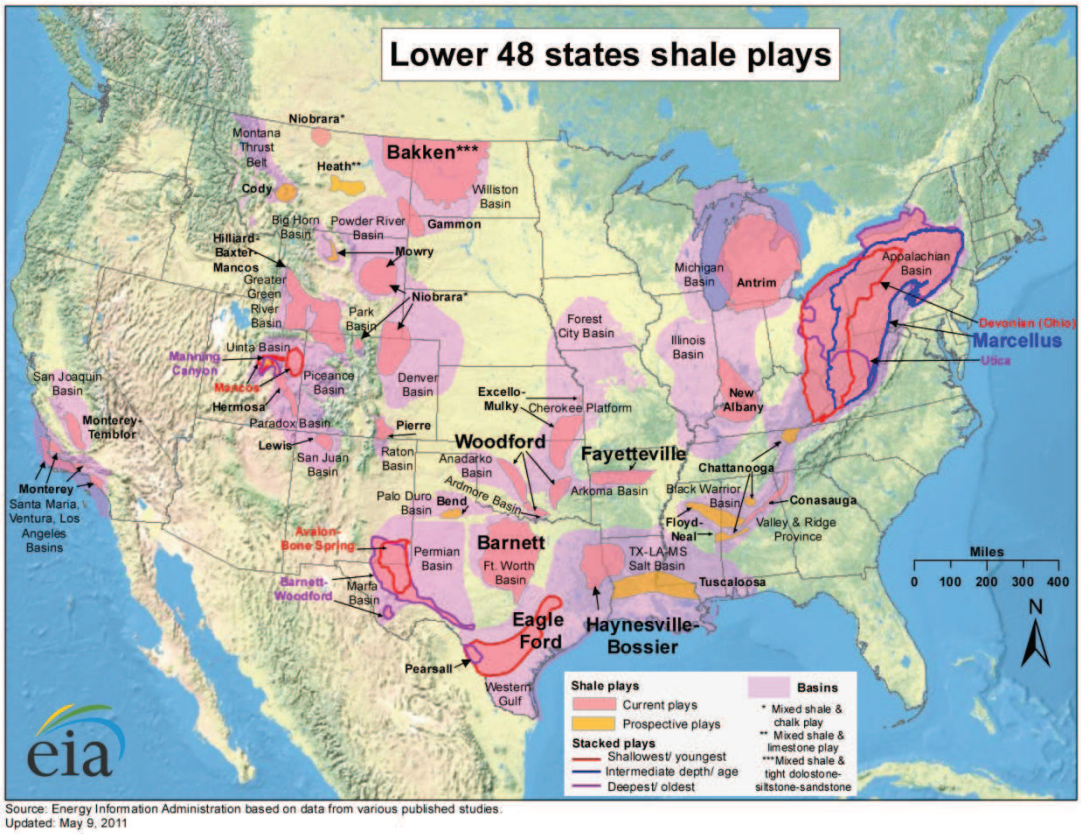

Figure 1.3 Locations of shale gas plays, USA (EIA, 2011b)

Production has been established in a range of major shale-gas systems or various geological ages (Figure 1.3), including:

- Antrim Shale, Michigan Basin (Devonian)
- Barnett Shale, Fort Worth Basin, Texas (Mississippian-Upper Carboniferous)
- Fayetteville Shale, Arkansas (Mississippian-Upper Carboniferous)
- Haynesville/Bossier Shale, Texas-Louisiana (Upper Jurassic)
- Lewis / Mancos Shale, San Juan Basin, New Mexico (Cretaceous)
- Marcellus Shale, Pennsylvania (Devonian)
- New Albany Shale, Illinois Basin, (Devonian/Mississippian)
- Ohio Shale, Appalachian Basin, (Devonian)
- Woodford Shale, Oklahoma (Devonian/Mississippian)

Technically recoverable natural gas from these shales is considered to be more than 1,744 trillion cubic feet (Tcf) (50 km^3), which includes 211 Tcf of proven reserves (Kargbo et al., 2010). At an annual production rate of about 19.3 Tcf, there is enough natural gas to supply the USA for the next 90 years with some estimates extending the supply to 116 years. The total number of natural gas and condensate wells in the USA rose 5.7% in 2008 to a record 478,562 (Kargbo et al., 2010).

The resource falls into two distinct types: biogenic and thermogenic, although there can also be mixtures of the two gas types (Johnson and Doré, 2010). Shale formations that presently produce gas commercially exhibit an unexpectedly wide variation in the values of five key parameters: thermal maturity (expressed as vitrinite reflectance), sorbed-gas fraction, reservoir thickness, total organic carbon content, and volume of gas in place. The degree of natural fracture development in an otherwise low-matrix-permeability shale reservoir is a controlling factor in gas producibility. To date, unstimulated commercial production has been achievable in only a small proportion of shale wells, those that intercept natural fracture networks. In most

other cases, a successful shale-gas well requires hydraulic stimulation. The current parameters used to assess shale gas prospectivity vary greatly and may not provide a strong predictive model. Consequently, additional criteria, such as the clay and mineral content of the shales, the burial history and the precise nature of the gas storage and retention systems are fertile grounds for further research.

1.5 POTENTIAL IN THE UK

Some 20 years ago it was suggested that, by analogy with the USA, the UK may possess considerable reserves of shale-gas. This was predicated on the assumption that shale-gas only resulted from the thermal maturation of organic-rich shales. Subsequently, it has been realized that shale-gas can be formed by methanogenic bacteria acting on organic-rich rocks, irrespective of age and thermal history, and especially as a result of post-glacial flushing of aquifers. This realization enhances British shale gas resources dramatically, making any fractured organic-rich shale prospective (Selley, 2005). Gas shows are commonly observed while drilling through shale stratigraphy, but there have been no Drill Stem Tests (DSTs) in the UK.

Potential British shale-gas petroleum systems include the thermally overmature Caledonide fold belt, the Lower Carboniferous thermally mature basinal shales of northern England and the Midland Valley of Scotland. The Jurassic (Lias, Oxford and Kimmeridge) clays may have considerable potential for thermogenic and biogenic shale-gas. The leaner Lower Cretaceous (Wealden) and Eocene (London Clay) formations of southern England may have minor potential for biogenic shale-gas (Selley, 2005).

Smith et al. (2010) assessed the potential targets as ranging in age from Cambrian to the late Jurassic, within the main UK organic-rich black shales: younger shales have been excluded because they have not reached the gas window, but they may possess a biogenic gas play (Figure 1.4 and Figure 1.5). A geographic information system, showing the distribution of potential reservoir units, has been created combining information on hydrocarbon shows, thermal maturity, fracture orientation, gas composition, and isotope data to identify potentially prospective areas for shale gas. The prospects include Lower Palaeozoic shale basins on the Midland Microcraton (a high risk because no conventional gas has been proved in this play), Lower Carboniferous shales in the Pennine Basin (the best prospect associated with conventional fields and high maturity), Carboniferous shales in the Stainmore and Northumberland Basin system (high risk because no conventional gas discoveries exist) and Jurassic shales in Wessex and Weald basins (small conventional fields signify potential here).

The UK has abundant shales at depth, although their distribution is not well known. The 2010 BGS/DECC Shale Gas report identified significant potential areas in northern England, including the Widmerpool Gulf near Nottingham and a large area centred on the Elsewick Gas field, near Blackpool. The recently published UK data and analysis for shale gas prospectivity covers work up to March 2009 and identifies high prospect areas.

The UK shale gas industry is in its infancy and there are no reliable indicators of potential productivity. However, by analogy with similar producing shale gas plays in America, the UK shale gas reserve potential could be as large as 150 billion cubic metres (bcm) — very large compared with the 2–6 bcm estimate of undiscovered gas resources for onshore conventional petroleum (see BGS/DECC Shale Gas report)

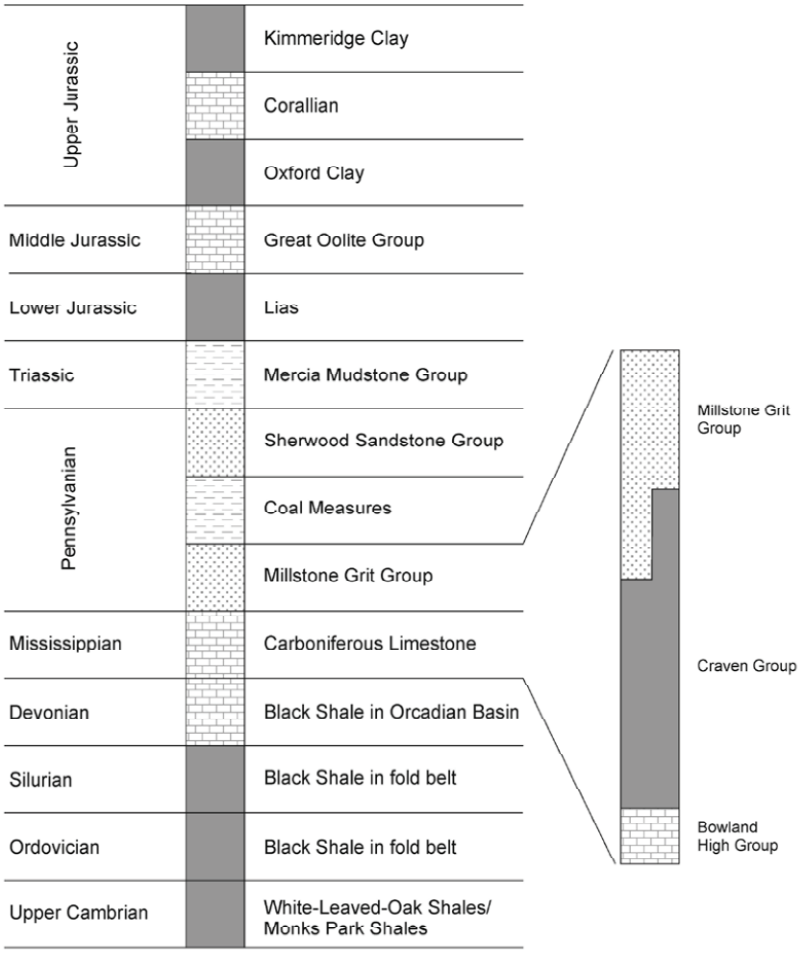

Figure 1.4 Main black shale formations in the UK with US classifications in left column (Smith et al., 2010)

1.6 CONCERNS

There are a range of web-based current affairs articles which detail popular concern on groundwater issues related to shale gas exploitation. There primarily address two areas:

- Contamination of water by chemicals added during the hydraulic fracturing process, such as benzene (Gjelten, 2009)
- Contamination of water by upwards leakage of shale gas components, such as methane (Kerr, 2011; Krupnick et al., 2011).
- Both of these (Lustgarten, 2009)

(Wood et al., 2011) state that the potential for groundwater contamination is a key risk associated with shale gas extraction. This could occur if there is a catastrophic failure or loss of integrity of the wellbore, or if contaminants can travel from the target fracture through subsurface pathways. This review draws on a number of other articles, including (Energy and Climate Change Select Committee, 2011; McNutt, 2011; Ridley, 2011; Zoback et al., 2010) to set out the potential concerns in the following chapters.

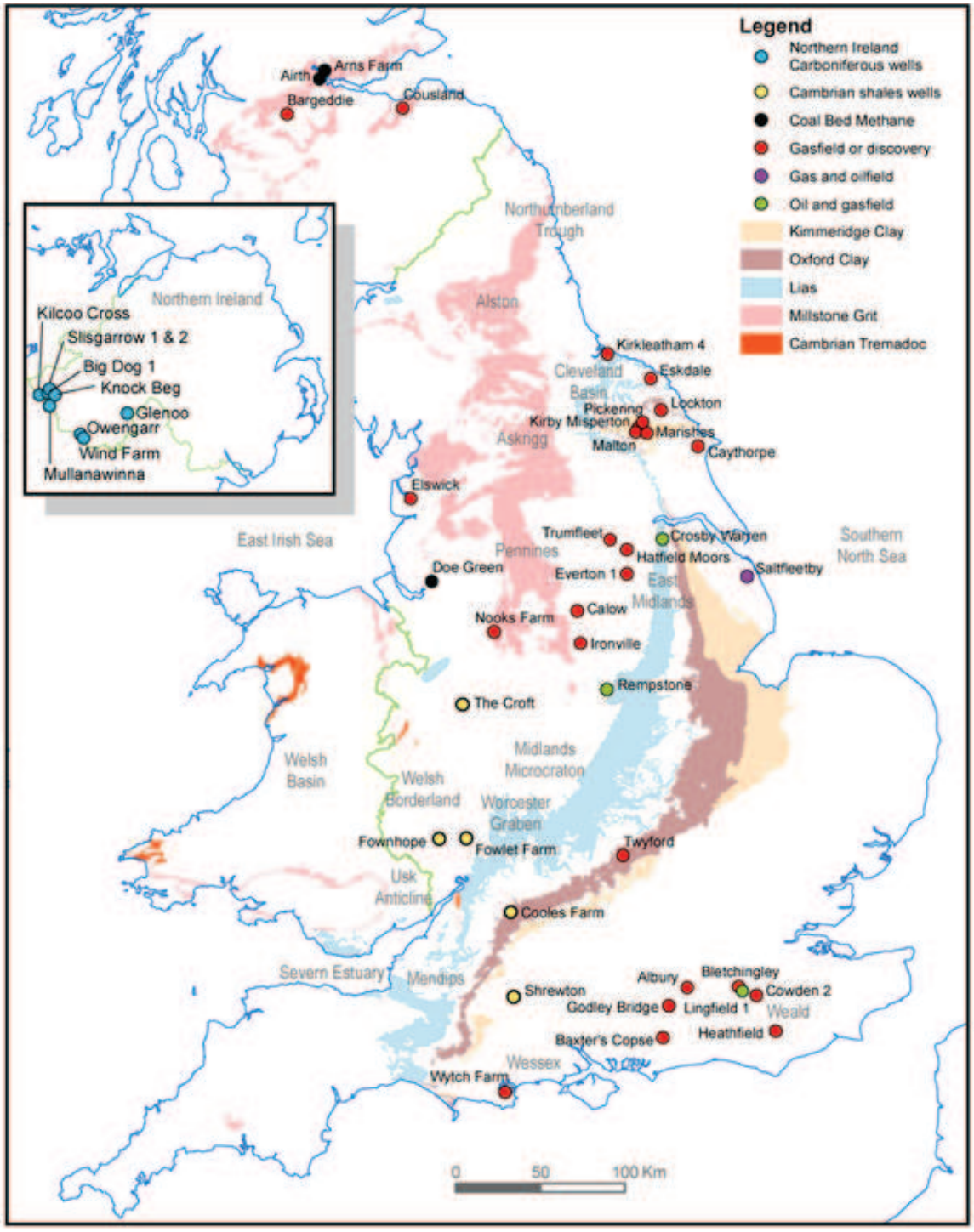

Figure 1.5 Outcrop of main black shale formations in UK and selected oil and gas wells and gas fields.

2 Water resources issues

The sheer volume of water consumed during hydraulic fracturing could make unconventional gas production costly and unsustainable in many areas of the world that are water-constrained (Flavin and Kitasei, 2010). The drilling and completion of wells require large quantities of water (Gregory et al., 2011). Drilling of the vertical and horizontal components of a well may require 400–4000 m^3 of water for drilling fluids to maintain downhole hydrostatic pressure, cool the drill head, and remove drill cuttings. Then, 7000–18,000 m^3 of water are needed for hydraulic fracturing of each well. These large volumes of water are typically obtained from nearby surface waters or pumped from a municipal source. Such water is not generally returned to surface or groundwater.

Wood et al. (2011) give an estimate for the UK of the range of water resources potentially required per year to deliver sustained annual production (over a period of 20 years) equivalent to 10% of the UK's annual consumption (annual gas consumption in the UK in 2008 was around 90bcm). This was for six well pads drilled vertically to 2000 m and laterally to 1200 m and for 50% of these to require refracturing once (Table 2.1).

Potential impacts, where no controls are in place, are listed in New York State (2011) as modifications to groundwater levels, surface water levels and stream flow. Operators need this water when drilling activity is occurring, requiring that the water be procured over a relatively short period of time. Water withdrawals during periods of low stream flow could affect fish and other aquatic life, fishing and other recreational activities, municipal water supplies, and other industries such as power plants (Ground Water Protection Council and ALL Consulting, 2009). This can impact ecology, for example due to unsuitable water temperatures and dissolved oxygen concentrations during periods of low flow (New York State, 2011). In regions where local, natural water sources are scarce or dedicated to other uses, the limited availability of water may be a significant impediment to gas resource development (Ground Water Protection Council and ALL Consulting, 2009).

Table 2.1 Summary of water resources required to meet 10% of UK annual requirement for gas (Wood et al., 2011)

	Activity	**Volume (m^3)**	
		Min	**Max**
Initial fracturing	Water volume	54,000	174,000
	Fracturing chemicals volume (@2%)	1,080	3,480
	Flowback water	7,920	137,280
	Flowback water waste content (@2%)	158	2,746
Refracturing	Water volume	27,000	87,000
	Fracturing chemicals volume (@2%)	540	1,740
	Flowback water	3,960	68,640
	Flowback water waste content (@2%)	79	1,373

3 Contamination issues

3.1 SOURCES

3.1.1 Constituents of shale gas

Shale-gas systems essentially are continuous-type biogenic (predominant), thermogenic, or combined biogenic-thermogenic gas accumulations characterized by widespread gas saturation, subtle trapping mechanisms, seals of variable lithology, and relatively short hydrocarbon migration distances. Shale gas may be stored as free gas in natural fractures and intergranular porosity, as gas sorbed onto kerogen and clay-particle surfaces, or as gas dissolved in kerogen and bitumen (Jenkins and Boyer, 2008). Shale gas has calorific values at the high end of the range for natural gas (c.1200 btu)(Selley, 2005).

Natural gas is considered 'dry' when it is almost pure methane; when other hydrocarbons are present, the natural gas is 'wet.' (Natural Gas Supply Association, 2010) In general thermogenic gas has a high methane content with low but significant concentrations of higher hydrocarbons such as ethane (C_2) and propane (C_3), with $C_1/(C_2+C_3)$ <100, and enriched ^{13}C with $\delta^{13}C$ methane in the range -110 to -55‰. In contrast biogenic gas has $C_1/(C_2+C_3)$ between1000 to 10,000 and $\delta^{13}C$ methane in the range -55 to -20‰ (Révész et al., 2010). Typical values for natural gas are shown in Table 3.1.

Table 3.1 Typical composition of gas (from Natural Gas Supply Association, 2010)

Name	Formula	Typical content (%)
Methane	CH_4	70–90
Ethane	C_2H_6	0–20
Propane	C_3H_8	
Butane	C_4H_{10}	
Carbon dioxide	CO_2	0–8
Oxygen	O_2	0–0.2
Nitrogen	N_2	0–5
Hydrogen sulphide	H_2S	0–5
Rare gases	Ar, He, Ne, Xe	Trace

For the Fort Worth Shale methane varies in concentration from 75% in the northwest to 96% in the southeast part of the study area (Rodriguez and Philp, 2010). A general increase in the methane concentration can be observed from west to east in the study area, which has been interpreted as the consequence of an increase in maturity in the same direction. It was all assumed to be derived from kerogen cracking and secondary cracking of non-migrated hydrocarbons.

The molecular composition of the Antrim Shale, USA varies from almost pure methane to 5% by volume of ethane and higher hydrocarbons, nitrogen and carbon dioxide (Martini, A M et al., 1996). Gas at margins of the basin was considered to have a microbial origin on the basis of high methane content and shallow depth of production. The $\delta^{13}C$ isotopic signature of gas and co-produced water suggested microbial methanogenesis. There was also correlation of δD of methane and formation water. Along the basin margins systematic enrichment of C_2 and C_3 with depletion of concentration suggesting oxidation of higher alkanes (Martini, Anna M. et al., 2003). These isotopic signatures allow potential contamination by shale gas to be identified.

3.1.2 Fracking chemicals

The following details are summarised from Gregory et al. (2011) and set out in Table 3.2. After water, the largest compound of a fracture fluid utilized to treat a shale gas wells is proppant. Proppant is a granular material, usually sand, which is mixed with the fracture fluids to hold or prop open the created fractures that allow gas to flow to the well. Other commonly used proppants include resin- coated sand, intermediate strength proppant ceramics, and high strength proppants such as sintered bauxite and zirconium oxide. Resin coated sands are utilized regularly in the shale gas plays during the final stages of a fracture. Resin coating may be applied to improve proppant strength or may be design to react and act as a glue to hold some of the coated grains together.

Table 3.2 Composition and purposes of typical constituents of hydraulic fracturing fluid (after Gregory, 2011 and Ground Water Protection Council and ALL Consulting, 2009)

Constituent	Composition (% by volume)	Example	Purpose
Water and sand	99.50	Sand suspension	"Proppant" sand grains hold microfractures open
Acid	0.123	Hydrochloric or muriatic acid	Dissolves minerals and initiates cracks in the rock
Friction reducer	0.088	Polyacrylamide or mineral oil	Minimizes friction between the fluid and the pipe
Surfactant	0.085	Isopropanol	Increases the viscosity of the fracture fluid
Salt	0.06	Potassium chloride	Creates a brine carrier fluid
Scale inhibitor	0.043	Ethylene glycol	Prevents scale deposits in pipes
pH-adjusting agent	0.011	Sodium or potassium carbonate	Maintains effectiveness of chemical additives
Iron control	0.004	Citric acid	Prevents precipitation of metal oxides
Corrosion inhibitor	0.002	n,n-dimethyl formamide	Prevents pipe corrosion
Biocide	0.001	Glutaraldehyde	Minimizes growth of bacteria that produce corrosive and toxic by-products
Breaker	0.01	Ammonium persulphate	Allows a delayed breakdown of gel polymer chains
Crosslinker	0.007	Borate salts	Maintains fluid viscosity as temperature increases
Gelling agent	0.056	Guar gum or hydroxyethyl cellulose	Thickens water to suspend the sand
Oxygen scavenger	-	Ammonium bisulphite	Removes oxygen from the water to prevent corrosion

The viscosity of fresh water tends to be low, which limits waters ability to transport the proppant necessary for a successful fracture stimulation treatment. As a result, some hydraulic fracturing fluids have a gel additive to increase the viscosity of fracture fluids, typically, either a linear or a cross-linked gel. Gellant selection is based on reservoir formation characteristics, such as thickness, porosity, permeability, temperature, and pressure. As temperatures increase, these gels tend to thin dramatically. In order to prevent the loss of viscosity, polymer concentration can be

increased (polymer loading) or instead, cross-linking agents can be added to increase the molecular weight, thus increasing the viscosity of the solution.

In addition to water and proppant, many other additives are essential to successful shale gas reservoir fracture stimulation. Acid is utilized in the beginning of the fracture process to clean up cement that is lodged in the perforations and provide an accessible path to the formation once fracturing fluid is pumped. Hydrochloric acid is most commonly used at a concentration of 15% HCl although it can effectively be utilized in concentrations ranging from 3% to 28%. Acids are typically diluted to desired concentrations prior to transporting to the job location. Once it is added to the fluids, it is further diluted by a factor of 1,000 or more prior to subsurface injection. In stimulations that utilize an acid breakdown, a corrosion inhibitor is used to hinder the corrosion of steel tubing, well casing, tools and tanks. The addition of 0.1% to 2% of a corrosion inhibitor can decrease corrosion by up to 95%. Concentrations of corrosion inhibitor depend on downhole temperatures and casing and tubing types. At temperatures exceeding 250 degrees Fahrenheit, higher concentrations of corrosion inhibitor, a booster, or an intensifier may also be necessary. A typical corrosion inhibitor utilized in shale gas plays is n,n-dimethyl formamide.

Biocides are additives that are used to minimize the danger of bacterial corrosion in the wellbore. Fracture fluids typically contain gels that are organic, which provides an ideal medium for bacterial growth, reducing viscosity and the ability of the fluid to effectively carry proppant. Biocides, such as glutaraldehyde are diluted in the fluid in a mannerism similar to the addition of the corrosion inhibitor. In addition to glutaraldehyde, biocides can also contain bleach, DAZOMET, or 2,2-dibromo3-nitrilopropionamide. When a formation contains clay, permeability can be significantly reduced when exposed to water that is less saline than the formation water. As a result, treatment with solutions containing 1% to 3% salt is generally utilized as a base liquid when clay swelling is probable. Potassium chloride (KCl) is the most common chemical utilized as a clay stabilizer due to its ability to stabilize clay against the invasion of water to prevent swelling.

However, in wells that have lower temperatures, such as the shale gas wells in the Barnett and Fayetteville plays, a breaker is added to the fluid in later stages of the process to break down the viscosity of the gelling agent to aid in releasing the proppant and enhance the volume of flowback water received after the completion. The most common type of breaker is peroxydisulphate. Breakers are typically added as the gel is being pumped because if given enough time, it could reduce the viscosity prior to pumping.

3.1.3 Naturally occurring radioactive material

Naturally occurring radioactive material can be brought to the surface in the natural gas production process. When such material is associated with oil and natural gas production, it begins as small amounts of uranium and thorium within the rock. These elements, along with some of their decay elements, notably Ra^{226} and Ra^{228}, can be brought to the surface in drill cuttings and produced water. $Radon^{222}$, a gaseous decay element of radium, can come to the surface along with shale gas (Ground Water Protection Council and ALL Consulting, 2009). The principal concerns are with accumulation in field equipment or in sludge or sediment within settling tanks.

3.2 ROUTES TO GROUNDWATER

3.2.1 Fracking process

A frequently expressed concern about shale gas development is that subsurface hydraulic fracturing operations in deep shale formations might create fractures that extend well beyond the target formation to water aquifers, allowing methane, contaminants naturally occurring in formation water, and fracturing fluids to migrate from the target formation into drinking water supplies (Zoback et al., 2010). Because the direct contamination of underground sources of

drinking water from fractures created by hydraulic fracturing would require hydrofractures to propagate several thousand feet beyond the upward boundary of the target formation through many layers of rock, such contamination is highly unlikely to occur in deep shale formations during well-designed fracture jobs. A report for New York State (2011) concludes that fracking is unlikely to create a pathway beyond the fractured zone and the post fracking reversal of pressure means that fluids migrate back to the well.

The successful injection of hydraulic fracturing fluid in intended to result in gas production without the contamination of groundwater. This depends on the integrity of the well and the correct fluid design (Arthur et al., 2009).

Zoback et al. (2010) state that seismic monitoring is an essential tool for assuring that hydraulic fracturing is inducing microseismic activity only within the shale gas reservoir. Yet only about three percent of the ~75,000 hydraulic fracturing stages conducted in the United States in 2009 were seismically monitored. These authors suggested that public confidence in the safety of hydraulic fracturing would be greatly improved by more frequent microseismic monitoring and public dissemination of the results.

Another subsurface risk that has received attention recently is the possibility that drilling and hydraulically fracturing shale gas wells might cause low-magnitude earthquakes. While the hydraulic fracturing process does create a large number of microseismic events, or micro-earthquakes, the magnitudes of these are generally too small to be detected at the surface (Zoback et al., 2010).

Underground fluid injection is an integral part not only of hydraulic fracturing, but of waste water disposal in injection wells, some geothermal energy projects, and carbon dioxide sequestration. The seismic monitoring of hydraulic fracture jobs discussed earlier is critical to improving understanding of how underground injection might spark unexpectedly high magnitude seismic activity.

3.2.2 Accidental releases during preparation of fracturing fluids

New York State (2011) list potentially polluting activities as fuelling and tank refilling, bulk chemical or fluid storage, equipment cleaning, vehicle maintenance, pipe work, cement mixing areas and piping. On-site spills or leaks could potentially occur during transport to site and mixing and preparation. (Zoback et al., 2010) report that up to 200 additives could be used in fracturing fluids. Chemicals to be used in fracturing fluids are commonly transported by road and are generally stored at drilling sites in tanks before they are mixed with water in preparation for a fracturing job. These could therefore be released by pipe work or regulator failures or by operator error (Wood et al., 2011). These fluids have the potential to contaminate surface water and groundwater in the same way as any other surface activity.

3.2.3 Fluid leak-offs, blowouts and casing failures

All natural gas wells are subject to accidents such as blowouts, improper well construction and abandonment and associated contamination. Any structure that penetrates water aquifers, such as a well, has the potential to contaminate these water sources (Grubert and Kitasei, 2010).

The loss of fracturing fluid through the artificially created fractures to other areas within the shale gas formation is termed fluid leak off. This can constitute 70% of the injected volume if not controlled properly which could result in fluid migrating into drinking water aquifers (Energy and Climate Change Select Committee, 2011).

Failure of the cement or casing surrounding the wellbore poses a risk to water supplies. If the annulus is improperly sealed, natural gas, fracturing fluids, and formation water containing high concentrations of dissolved solids may be communicated directly along the outside of the wellbore among the target formation, drinking water aquifers, and layers of rock in between.

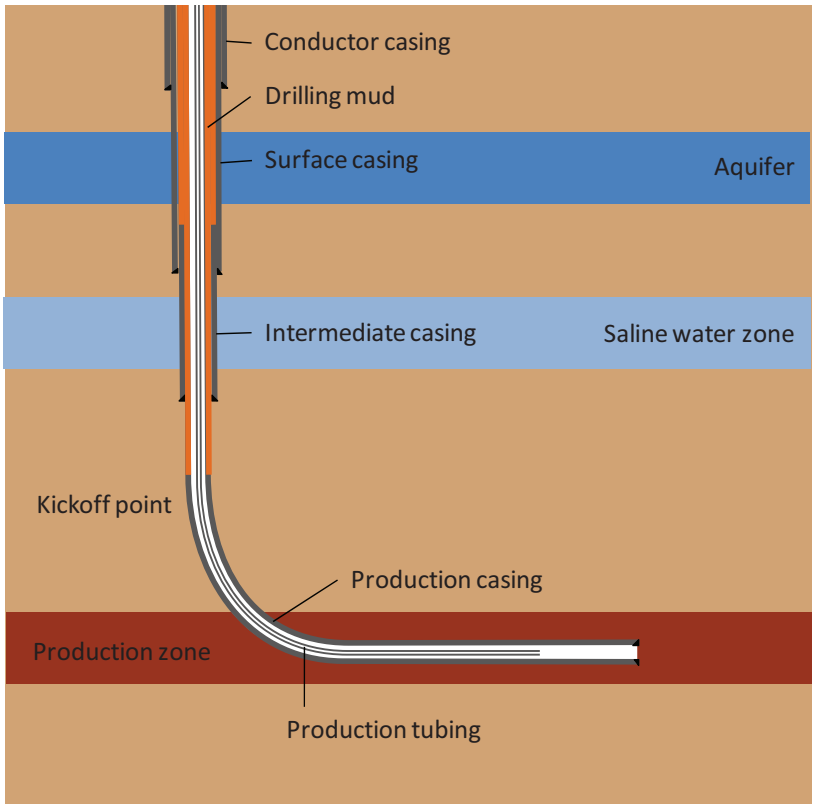

Figure 3.1 Schematic of casing and grouting to protect groundwater resources (from (Ground Water Protection Council and ALL Consulting, 2009)

As a further protection of the fresh water zones, air-rotary drilling is often used when drilling through this portion of the wellbore interval to ensure that no drilling mud comes in contact with the fresh water zone. Intermediate casings, when installed, are used to isolate non freshwater-bearing zones from the producing wellbore. Intermediate casing may be necessary because of a naturally over-pressured zone or because of a saltwater zone located at depth. The borehole area below an intermediate casing may be uncemented until just above the kickoff point for the horizontal leg. This area of wellbore is typically filled with drilling muds.

Analysis of the redundant protections provided by casings and cements was presented in a series of reports and papers prepared for the American Petroleum Institute (API) in the 1980s. These investigations evaluated the level of corrosion that occurred in Class II injection wells. Class II injection wells are used for the routine injection of water associated with oil and gas production. The research resulted in the development of a method of calculating the probability (or risk) that fluids injected into injection wells could result in an impact to a drinking water source.

Detailed analysis was performed for those basins in which there was a possibility of casing corrosion (Michie & Associates, 1988). Risk probability analysis provided an upper bound for the probability of the fracturing fluids reaching an underground source of drinking water. Based on the values calculated, a modern horizontal well completion in which 100% of the USDWs are protected by properly installed surface casings (and for geologic basins with a reasonable likelihood of corrosion), the probability that fluids injected at depth could impact a USDW would be between 2×10^{-5} (one well in 200,000) and 2×10^{-8} (one well in 200,000,000) if these wells were operated as injection wells. Other studies in the Williston basin found that the upper bound probability of injection water escaping the wellbore and reaching an underground source of drinking water is seven changes in one million well-years where surface casings cover the drinking water aquifers (Michie and Koch, 1991).

3.2.4 Flowback and produced water

Most of the concerns of water transport and disposal arise from flowback water which is produced by the fracturing process or produced water which comes from the formation during gas production, or the partial recovery of the fluids that are utilized to fracture stimulation a well.

Flowback of the fracturing fluid occurs over a few days to a few weeks following hydraulic fracturing, depending on the geology and geomechanics of the formation. The highest rate of flowback occurs on the first day, and the rate diminishes over time; the typical initial rate may be as high as 1000 m^3/d (Arthur et al., 2008). The majority of fracturing fluid is recovered in a matter of several hours to a couple of weeks. In various basins and shale gas plays, the volume of produced water may account for less than 30% to more than 70% of the original fracture fluid volume. In some cases, flow back of fracturing fluid in produced water can continue for several months after gas production has begun (Ground Water Protection Council and ALL Consulting, 2009).

The dissolved constituents are naturally occurring compounds and may vary from one area to the next or even by area within the same shale. Initial produced water can vary from fresh (<5,000 mg/L TDS to varying degrees of saline (5,000 mg/L to 100,000 mg/L TDS or higher). Typical ranges of composition are shown in Table 3.3. The composition of the flowback water changes as a function of the time the water flowing out of the shale formation. A comprehensive list of constituents including priority pollutants is provided in Appendix 1 of this report.

There is growing public concern about management of this water because of the potential for human health and environmental impacts associated with an accidental release of flowback water into the environment (Kargbo et al. 2010). Past experience with produced and flowback waters is used to guide developers towards treatment and management options in regions of new production (Kargbo et al. 2010). Flowback water management options for some shale plays, such as the Marcellus, are confounded by high concentrations of total dissolved solids in the flowback water, geography, geology, and a lack of physical infrastructure (Arthur et al. 2008; Kargbo et al. 2010).

Table 3.3 Range of constituents in flowback water from development in the Marcellus Shale, USA (after Gregory et al, 2011)

Constituent	Low(mg/L)	Medium (mg/L)	High (mg/L)
Total dissolved solids	66,000	150,000	261,000
Total suspended solids	27	380	3200
Hardness (as $CaCO_3$)	9100	29,000	55,000
Alkalinity (as $CaCO_3$)	200	200	1100
Chloride	32,000	76,000	148,00
Sulphate	-	7	500
Sodium	18,000	33,000	44,000
Calcium	3000	9800	31,000
Strontium	1400	2100	6800
Barium	2300	3300	4700
Bromide	720	1200	1600
Oil and grease	10	18	260

3.2.5 Retention pits

In rural areas, storage pits may be used to hold fresh water for drilling and hydraulic fracturing (Ground Water Protection Council and ALL Consulting, 2009). They are typically excavated containment ponds that, based on the local conditions and regulatory requirements, may be lined. Water storage pits are becoming an important tool in the shale gas industry because the drilling and hydraulic fracturing of these wells often requires significant volumes of water as the base fluid for both purposes. Pits can also be used to store additional make-up water for drilling fluids or to store water used in the hydraulic fracturing of wells.

In an urban setting, due to space limitations, steel storage tanks may be used. Tanks can also be used in a closed-loop drilling system. Closed-loop drilling allows for the re-use of drilling fluids and the use of lesser amounts of drilling fluids. Closed-loop drilling systems have also been used with water-based fluids in environmentally sensitive environments in combination with air-rotary drilling techniques. While closed-loop drilling has been used to address specific situations, the practice is not necessary for every well drilled. As discussed in the previous section, drilling is a regulated practice managed at the state level, and while state oil and gas agencies have the ability to require operators to vary standard practices, the agencies typically do so only when it is necessary to protect the gas resources and the environment.

3.2.6 Disposal of flowback liquid

3.2.6.1 Injection underground through an onsite or offsite well

Most produced water from oil and gas production in the United States is disposed of through deep underground injection However, the availability of adequate deep-well disposal capacity can be an important constraining factor for shale gas development. As a result, other solutions for flowback water management are necessary (Gregory et al., 2011).

3.2.6.2 Discharge to nearby surface water

This option is generally infeasible due to the quality of the water to be disposed.

3.2.6.3 Transport to treatment works either municipal or industrial

Although discharge and dilution of flowback water into publicly owned municipal wastewater treatment plants (WWTWs) has been utilized in the USA, (Gregory et al., 2011) state that this is not an adequate or sustainable approach for managing flowback water. The amount of high-TDS flowback water that can be accepted by WWTWs is usually limited by regulation. In general, the volume of flowback water that can be sent to WWTWs is small compared to the volume of flowback water generated during rapid well drilling and well development. New York State (2011) state that purpose-built private treatment systems are more likely to be effective in treating flowback water than municipal WWTWs.

Even with favourable energy prices, the treatment of flowback water using RO is considered to be economically infeasible for waters containing more than 40,000 mg/L TDS For high-TDS waters, vibratory shear-enhanced processing (VSEP) has been applied to membrane technologies However, the salt concentrations in offshore produced waters are far lower than those expected during shale gas extraction.

The high concentrations of TDS in flowback water may limit the use of membrane technology, but such water is well suited to treatment by distillation and crystallization Distillation and crystallization are mature technologies that rely on evaporating the wastewater to separate the water from its dissolved constituents. The vapour stream is passed through a heat exchanger to condense the gas and produce purified water. Distillation removes up to 99.5% of dissolved solids and has been estimated to reduce treatment and disposal costs by as much as 75% for produced water from shale oil development. However, as with RO, distillation is an energy-intensive process. Thermal distillation may treat flowback water containing up to, and in some

cases even exceeding, 125,000 mg/L of TDS, but even the most modern technology is limited to low flow rates (300 m^3/d), necessitating the construction of large storage impoundments. Crystallization is a feasible approach for treating flowback water with TDS concentrations as high as 300,000 mg/L, but it has high energy requirements and large capital costs.

Several other technologies have been or are being developed for treating flowback water, but each has its limitations. Ion exchange and capacitive deionization are limited to the treatment of low-TDS water; freeze–thaw evaporation is restricted to cold climates; evaporation ponds are restricted to arid climates; and artificial wetlands and agricultural reuse are greatly limited by the alkalinity tolerance of plant and animal life.

3.2.6.4 REUSE

One of the most promising technologies for management of flowback water is its reuse in subsequent hydraulic fracturing operations. Flowback water is impounded at the surface and reused either directly or following dilution or pre-treatment. Reuse is particularly attractive in regions where deep-well disposal options are limited or where the availability of make-up water for hydraulic fracturing is limited. The reuse of flowback water has the benefit of minimizing the volume of such water that must be treated or disposed of and greatly reduces environmental risks while enhancing the economics of shale gas extraction. Potentially limiting factors for reuse are the chemical stability of the viscosity modifiers and other constituents of hydraulic fracture water in the brine solution and the potential for precipitation of divalent cations in the wellbore.

The effectiveness of friction reducers may be decreased at high TDS concentrations. The development of additives that retain their effectiveness in brine solutions are likely to expand the opportunity for reuse of flowback water for subsequent hydraulic fracturing.

However, the major problem with use of flowback water for makeup of hydrofracking water is the very high concentration of scale forming constituents including barium, calcium, iron, magnesium, manganese, and strontium (Ba, Ca, Fe, Mg, Mn, and Sr). The divalent cations in the flowback water are solubilised from formation minerals and can form stable carbonate and sulphate precipitates in the wellbore if the flowback water is reinjected. This may potentially reduce gas production from the well. In particular, barium and strontium form very low-solubility solids with sulphate, while high calcium concentrations may lead to calcite formation. These constituents readily form precipitates which rapidly block the fractures in gas bearing formations required for economic gas production. Reusable flowback water should have a maximum total hardness of 2,500 mg/L measured as $CaCO_3$ (Kargbo et al., 2010). Depending on the quality of the flowback water, pre-treatment to reduce the divalent cation concentration by precipitation may be necessary.

4 Evidence of groundwater contamination

There is evidence of surface water contamination from shale gas production. A number of incidents are documented in New York State (2011) related to fracturing fluid releases and uncontrolled release of flowback water. Fracturing fluid releases occurred during mixing and pumping of fluid and resulted in surface water pollution by mixed fluid rather than the concentrated components. Flowback water was released together with gas and brine during post fracturing cleanout of a borehole due to inadequate blowback prevention equipment.

There are very few scientific studies that have assessed the impact of shale gas extraction on groundwater. The examples below all relate to the detection of shale gas constituents in groundwater.

In 2007, a well that had been drilled almost 1200 m into a tight sand formation in Bainbridge, Ohio was not properly sealed with cement, allowing gas from a shale layer above the target tight sand formation to travel through the annulus into an underground source of drinking water. The methane eventually built up until an explosion in a resident‘s basement alerted state officials to the problem (Ohio Dept of Natural Resources, 2008).

In aquifers overlying the Marcellus and Utica shale formations of north-eastern Pennsylvania and upstate New York, (Osborn et al., 2011) document systematic evidence for methane contamination of drinking water associated with shale gas extraction. In active gas-extraction areas (one or more gas wells within 1 km), average and maximum methane concentrations in drinking-water wells increased with proximity to the nearest gas well and were 19.2 and 64 mg CH_4 L^{-1} (n=26), a potential explosion hazard; in contrast, dissolved methane samples in neighbouring non-extraction sites (no gas wells within 1 km) within similar geologic formations and hydrogeological regimes averaged only 1.1 mgL−1 ($P < 0.05$; n=34) (Figure 4.1).

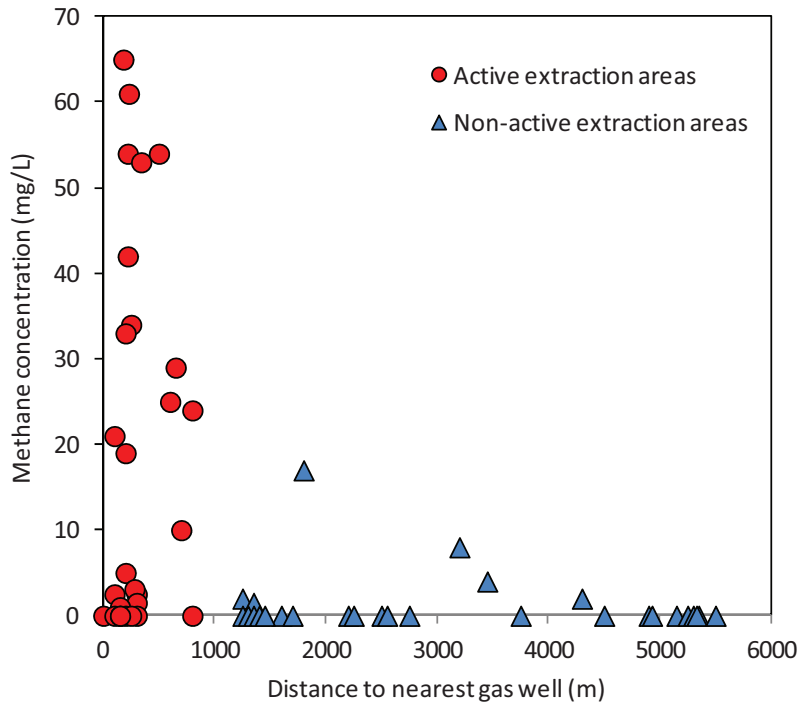

Figure 4.1 Methane concentrations as function of distance to nearest gas well (from (Osborn et al., 2011)

Average $\delta^{13}C$-CH_4 values of dissolved methane in shallow groundwater were significantly less negative for active than for non-active sites (−37 7‰ and −54 11‰, respectively; $P < 0.0001$). These δ13C-CH4 data, coupled with the ratios of methane-to-higher-chain hydrocarbons, and $\delta^{2}H$-CH_4 values, are consistent with deeper thermogenic methane sources such as the Marcellus and Utica shales at the active sites and matched gas geochemistry from gas wells nearby. In contrast, lower-concentration samples from shallow groundwater at non-active sites had isotopic signatures reflecting a more biogenic or mixed biogenic/thermogenic methane source. They found no evidence for contamination of drinking-water samples with deep saline brines or fracturing fluids.

Révész et al. (2010) investigated the origin of the combustible gases in groundwater from glacial-outwash and fractured-bedrock aquifers in northern Tioga County, Pennsylvania. Thermogenic methane (CH_4) and ethane (C_2H_6) and microbial CH_4 were found. Microbial CH_4 is from natural in situ processes in the shale bedrock and occurs chiefly in the bedrock aquifer. The $\delta^{13}C$ values of CH_4 and C_2H_6 for the majority of thermogenic gases from water wells either matched or were between values for the samples of non-native storage-field gas from injection wells and the samples of gas from storage-field observation wells. Traces of C_2H_6 with microbial CH_4 and a range of C and H isotopic compositions of CH4 indicate gases of different origins are mixing in sub-surface pathways; gas mixtures are present in groundwater. Pathways for gas migration and a specific source of the gases were not identified. Processes responsible for the presence of microbial gases in groundwater could be elucidated with further geochemical study.

5 Standards and regulation

5.1 UK

Broderick et al. (2011) reviewed the key regulatory instruments in place in the UK and the EU in the context of control of risks and impacts of shale gas exploration and commercial development.

Control and oversight of chemicals used in fracturing fluid is in theory provided by the European REACH Regulations (HSE, 2008), but as yet none of the substances examined by the European Chemicals and Health Agency has yet been registered for use in fracturing fluids.

Environmental impacts come under the scope of the Environmental Impact Assessment Directive (EC, 2009), but the volume of gas from individual production units are lower than the minimum to require their classification as Annex I and the assessment of Annex II projects is not consistently applied across the EU. No EAIs have been undertaken at existing UK sites as these are being below the minimum area.

Drilling standards have been recently summarised in Pereira (2011). Unconventional resources were not a consideration when the current regulations were made in the 1990s; for this reason, no specific mention of horizontal directional drilling and hydraulic fracturing is made in the regulations used in shale gas production, the Borehole Sites and Operations Regulations 1995 and the Well aspects of the Offshore Installations and Wells (Design and Construction, etc.) Regulations 1996.

For shale gas production, the technologies of hydraulic fracturing and horizontal directional drilling are the same as those of conventional drilling and have been in use for a long time but there are a lack of standards for these processes. There are British Standards covering hydraulic fracturing proppants and hydraulic fluid power, however, there are none covering chemicals used or the fracking procedure itself (BSI, 2009). A standard on directional drilling is under development (BSI, under development). Pereira (2011) therefore states that the unique element of hydraulic fracturing to unconventional gas exploration introduces dangers from pressurised water as well as chemical and water spillages and that it is clear that British and ISO standards are lacking in this area. They recommend that “standards are needed in the UK and

internationally to ensure the consistency of safety measures and to guarantee that damaging or dangerous practices such as those that have been recorded in the UK do not occur within the UK.

In England and Wales, the Environment Agency is responsible for managing the environmental risks of gas drilling onshore and up to one nautical mile offshore, which directly relate to potential pollution of water and large-scale refinement combustion. They would require information about the chemicals used in the fluid if the site is assessed as posing a risk to groundwater could require the operator to apply for a permit. All risks, including seismic activity are included. Of the 5 site permit and two are as yet unassessed. Measures that are currently mandatory for all fracking sites are an impermeable membrane to prevent spills entering the soil, and bunding to contain leakages. Currently flowback water is monitored for pollutants and radioactive material, but would not normally be tested from the site where a permit is not required.

US

5.2 USA

Where shale gas exploitation is established regulations are in place to minimise environmental impact. For example, regulations to minimise the risk of water impact are set out by New York State (2011) as:

- Any proposed high-volume hydraulic fracturing where the top of the target fracture zone is shallower than 2,000 feet (~600 m) along a part of the proposed length of the wellbore;
- Any proposed high-volume hydraulic fracturing where the top of the target fracture zone at any point along the entire proposed length of the wellbore is less than 1,000 feet (~300 m) below the base of a known fresh water supply;
- Any proposed well pad within the boundaries of a principal aquifer, or outside but within 500 feet (~150 m) of the boundaries of a principal aquifer;
- Any proposed well pad within 150 feet (~45 m)of a perennial or intermittent stream, storm drain, lake or pond;
- A proposed surface water withdrawal that is found not to be consistent with the Department's preferred passby flow methodology;
- Any proposed well location determined by the New York City Department of Environmental Protection to be within 1,000 feet (~300 m) of its subsurface water supply infrastructure.

6 Conclusions

6.1 SUMMARY

- The UK may possess considerable reserves of shale gas. Significant areas include the carboniferous strata of the Widmerpool Gulf, near Nottingham, and the Elsewick field near Blackpool. Work to extract shale gas has begun near Blackpool.
- Shale gas is predominantly methane of thermogenic origin with low percentages of C_2 and C_3 hydrocarbons. Its ^{13}C isotopic signature allows it to be distinguished from shallow biogenic methane in the subsurface
- Extraction involved drilling of deep horizontal wells and enhancing the natural permeability of the shale by hydraulic fracturing.
- Groundwater may be potentially contaminated by extraction of shale gas both from the constituents of shale gas itself, from the formulation and deep injection of water containing a cocktail of additives used for hydraulic fracturing and from flowback water which may have a high content of saline formation water.

- Fracking chemicals include hydrochloric acid, polyacrylamide, mineral oil, isopropanol, potassium chloride and ethylene glycol and low concentrations of pH buffers, corrosion inhibitors, biocides and gelling agents.
- A wide range of pollutants, including priority substances has been detected in flowback water
- The large volumes of water required may also put pressure on groundwater resources with impacts on other uses and groundwater dependent ecosystems. Reuse of flowback water involves treatment to remove high TDS.
- There are examples of surface water contamination from releases of fracturing water or flowback water. Documented instances of groundwater contamination from the U.S. are all related to the leakage of methane into groundwater.

6.2 UNKNOWNS

- For UK whether fields likely to be exploited for shale gas are overlain by significant aquifers.
- Vulnerability of groundwater to surface pollution from operations and flowback water. For aquifers at outcrop this can be informed by existing vulnerability mapping and other information
- Vulnerability of groundwater to pollution from fracking operations and shale gas. Relative depths of groundwater and shale gas reservoirs and the nature of the intervening strata. As an example a schematic for the U.S. shale gas plays is shown in Figure 6.1.

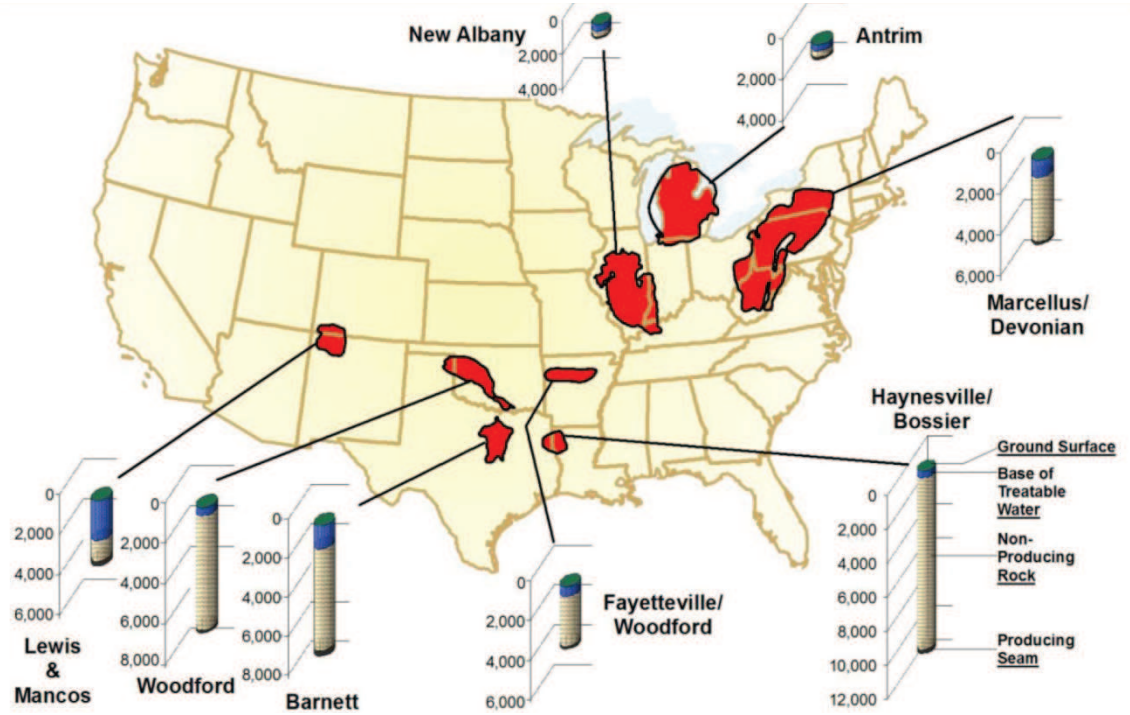

Figure 6.1 Comparative depths of shale gas formations and groundwater for the U.S. (Ground Water Protection Council and ALL Consulting, 2009)

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Appendix 1 Chemical constituents of fracturing fluid and flowback water

Table A1 Chemical constituents of products used in fracturing fluid (Wood et al 2010 taken from (New York State, 2009))

Substance	Controlled Substance*	Substance	Controlled Substance*
1,2 Benzisothiazolin-2- one / 1,2-benzisothiazolin-3-one		Hydroxylamine hydrochloride	
1,2,4 Trimethylbenzene	HS	Isopropylbenzene (cumene)	
1,4 Dioxane		Light aromatic solvent naphtha	
2-Bromo-2-nitro-1,3- propanediol		Methanol	
2-Butoxy ethanol		Mineral spirits / Stoddard Solvent	
2-Propyn-1-ol		Monoethanolamine	
3,5,7-Triaza-1- azoniatricyclo [3.3.1.13, 7]decane, 1-(3-chloro-2-propenyl)-		Naphtha (petroleum), hydrotreated heavy	HS
Acetic anhydride		Naphthalene	HS/PS
Acrylamide		Naphthalene bis(1- methylethyl)	
Ammonia	NHP	Petroleum base oil	
Ammonium hydrogendifluoride		Petroleum naphtha	
Ammonium persulfate		Potassium hydroxide	
Aqueous ammonia	NHP	Propylene glycol monomethyl ether	
Benzene	HS/PS	Sodium bisulphate	
Boric acid		Sodium chloroacetate	
Butan-1-ol		Sodium hydroxide	
Chlorine dioxide		Sodium hypochlorite	NHP
Copper (II) sulphate	NHP	Sodium tetraborate decahydrate	NHP
Diethylene glycol		Sulfamic acid	
Ethyl benzene		Tetrahydro-3,5- dimethyl-2H-1,3,5-thiadiazine-2-thione (a.k.a. Dazomet)	NHP
Ethylene glycol		Tetrasodium ethylenediamine tetraacetate	
Ethylene oxide		Thioglycolic acid	
Formaldehyde	NHP	Thiourea	
Glutaraldehyde		Toluene	HS
Hydrochloric acid		Trisodium nitrilotriacetate	
Hydrogen peroxide		Xylene	HS

*Note see Table A2

A more-comprehensive list is provided in an updated report (New York State, 2011), which is too long to reproduce.

Table A2 Measured flowback water composition (reproduced in Woods et al. 2010

Parameter	No of samples	No of detects	Min	Median	Max	Controlled substance*
1,4-dichlorobutane (%REC)	1	1		198		
2,4,6-tribromophenol (%REC)	1	1		101		
2,4-fluorobiphenyl (%REC)	1	1		71		
2-fluorophenol (%REC)	1	1		72.3		
4-nitroquinolone-1-oxide (mg/L)	24	24	1422	13908	48336	
4-terphenyl-d14 (%REC)	1	1		44.8		
Acetone (µg/L)	3	1		681		
Alkalinity (mg/L)	31	9	4.9	91	117	
Aluminium (mg/L)	29	3	0.08	0.09	1.2	
Antimony (mg/L)	29	1		0.26		
Aqueous ammonia (mg/L)	28	25	12.4	58.1	382	NHP
Arsenic (mg/L)	29	2	0.09	0.107	0.123	
Barium (mg/L)	34	34	0.553	661.5	15700	
Benzene (µg/L)	29	14	15.7	479.5	1950	HS/PS
BOD (mg/L)	29	28	3	274.5	4450	
Bis(2-ethylhexyl)phthalate (µg/L)	23	2	10.3	15.9	21.5	PS
Boron (mg/L)	26	2	0.539	2.06	26.8	
Bromide (mg/L)	6	9	11.3	616	3070	
Bromoform (µg/L)	29	6	34.8	36.7	38.5	
Cadmium (mg/L)	29	5	0.009	0.032	1.2	HS/PHS
Calcium (mg/L)	55	52	29.9	5198	34000	
COD (mg/L)	29	29	1480	5500	31900	
Chloride (mg/L)	58	58	287	56900	228000	
Chlorodibromomethane (µg/L)	29	2	3.28	3.67	4.06	
Chromium (mg/L)	29	3	0.122	5	5.9	
Cobalt (mg/L)	25	4	0.03	0.40	0.58	NHP
Copper (mg/L)	29	4	0.01	0.035	0.157	
Cyanide (mg/L)	7	2	0.006	0.013	0.019	
Dichlorobromomethane (µg/L)	29	1		2.24		
Ethyl benzene (µg/L)	29	14	3.3	53.6	164	
Fluoride (mg/L)	4	2	5.23	393	780	
Iron (mg/L)	58	34	0	47.9	810	
Lead (mg/L)	29	2	0.02	0.24	0.46	PS
Lithium (mg/L)	25	4	34.4	55.8	161	
Magnesium (mg/L)	58	46	9	563	3190	
Manganese (mg/L)	29	15	0.0292	2.18	14.5	
Methyl bromide (µg/L)	29	1		2.04		
Methyl chloride (µg/L)	29	1		15.6		
Molybdenum (mg/L)	25	3	0.16	0.72	1.08	
Naphthalene (µg/L)	26	1		11.3		HS/PS

Parameter	No of samples	No of detects	Min	Median	Max	Controlled substance*
Nickel (mg/L)	29	6	0.01	0.047	0.137	PS
Nitrogen (total as N) (mg/L)	1	1		13.4		
Oil and grease (mg/L)	25	9	5	17	1470	HS
o-terphenyl	1	1		91.9		
pH	56	56	1	6.2	8.0	
Phenol (µg/L)	23	1		459		NHS
Phenols (µg/L)	25	5	0.05	0.191	0.44	NHS
Phosphorus (as P) (mg/L)	3	3	0.89	1.85	4.46	
Potassium (mg/L)	31	13	59	206	7810	
Selenium (mg/L)	29	1		0.058		
Silver (mg/L)	29	3	0.129	0.204	6.3	
Sodium (mg/L)	31	28	83.1	19650	96700	
Strontium (mg/L)	30	27	0.501	821	5841	
Sulphate (as SO_4) (mg/L)	58	45	0	3	1270	
Sulphide (as S) (mg/L)	3	1		29.5		
Sulphite (as SO_3) (mg/L)	3	3	2.56	64	64	
Surfactants (mg/L)	3	3	0.2	0.22	0.61	
Tetrachloroethene (µg/L)	29	1		5.01		HS/Other
Thallium (mg/L)	29	1		0.1		
Titanium (mg/L)	25	1		0.06		
Toluene (µg/L)	29	15	2.3	833	3190	HS
Total dissolved solids (mg/L)	58	58	1530	93200	337000	
Total Kjeldahl nitrogen (mg/L)	25	25	37.5	122	585	
Total organic carbon (mg/L)	23	23	69.2	449	1080	
Total suspended solids (mg/L)	29	29	30.6	146	1910	
Xylenes (µg/L)	22	14	16	487	2670	HS
Zinc (mg/L)	29	6	0.028	0.048	0.09	
Gross alpha (pCi/L)	8	8	22.4		18950	
Gross beta (pCi/L)	8	8	62		7445	
Total alpha radium (pCi/L)	6	6	3.8		1810	
Radium-226 (pCi/L)	3	3	2.58		33	
Radium-228 (pCi/L)	3	3	1.15		18.41	

***Note**

Groundwater (under GWDD)(JAGDAG, 2011)

Hazardous substance (HS)

Non-hazardous pollutant (NHP)

Surface water (under Priority Substances Directive)(EC, 2008)

Priority Hazardous Substance (PHS)

Priority Substance (PS)

November 2012

Submission to the Petitions Committee of the National Assembly for Wales

in response to

the Welsh Government's Response to the Fracking Petition

cyfeillion y ddaear cymru
friends of the earth cymru

Summary

1. Friends of the Earth Cymru considers the Welsh Government's response to be deficient and urges the Committee to call for further evidence on this matter.

2. Current planning policy encompasses fracking within a generic minerals planning policy which has been based on the experience of processes for conventional gas extraction. It consequently fails to acknowledge the need for a more cautionary approach to the issues raised by the new processes involved in fracking. The major issues associated with fracking are the current scientific uncertainty as to its impacts; known impacts in relation to climate change; and potential impacts on groundwater. Current policy
makes no provision for addressing or considering those issues.

3. Welsh planning policy demands that sound science be used responsibly, which in this context entails a precautionary approach. Policy also demands that fracking be specifically acknowledged as a source of greenhouse gas production (and is a process which therefore runs counter to policy seeking to mitigate climate change). A new policy, or an addendum to Planning Policy Wales (PPW), is the appropriate means of dealing with the specific issues arising from fracking.

4. In view of the urgent need to mitigate climate change, Friends of the Earth Cymru has proposed an additional planning policy that provides for a sound precautionary approach to decision-making:

   Planning permission for fracking or shale gas operations (including test drilling and extraction) will not be granted unless
   a) the planning authority is satisfied that all reasonable scientific doubt that there is any risk of adverse impacts including groundwater contamination has been eliminated
   b) the proposal will not compromise the planning authority's duties in relation to climate change mitigation and adaptation; and
   c) the proposal is environmentally acceptable, or it can be made so by planning conditions or obligations.

5. In the short term we recommend the Welsh Government adopt a moratorium on fracking until sufficient information is available to determine with a high degree of certainty the likely impacts of fracking on the environment.

6. In addition, the Environmental Impact Assessment Regulations (England and Wales) 1999 should be amended to include the requirement for a full EIA to be conducted for each fracking application. Fracking operations exempt themselves by ensuring they have a surface operation smaller than the 1 ha limit (ordinarily they are 0.99 ha) that would make them subject to these Regulations.

Welsh planning policy

7. Section 39(2) of the *Planning and Compulsory Purchase Act 2004* makes it a statutory duty to act with the objective of achieving sustainable development. Section 1(1) of the Climate Change Act 2008 provides that it is the duty of the Secretary of State to to ensure that the net UK carbon account for the year 2050 is at least 80% lower than the 1990 baseline[1].

8. Section 1.2.2 of PPW states that:

> "The planning system must provide for an adequate and continuous supply of land, available and suitable for development to meet society's needs. It must do this in a way that pays regard to overall sustainability principles, outcomes and objectives, paying particular attention to climate change as a key sustainability concern".

9. One of the main outcomes that PPW is intended to deliver under sustainable development is:

> "A resilient and sustainable economy for Wales that is able to develop whilst reducing its use of natural resources and reducing its contribution to climate change" (Section 4.1.5).

10. The principles of planning for sustainable development (Section 4.3.1) include:

- "Respect for environmental limits, so that resources are not irrecoverably depleted or the environment irreversibly damaged. This means, for example, mitigating climate change, protecting and enhancing biodiversity, minimising harmful emissions, and promoting sustainable use of natural resources;
- Tackling climate change by reducing the greenhouse gas emissions that cause climate change and ensuring that places are resilient to the consequences of climate change;
- Applying the precautionary principle. Cost-effective measures to prevent possibly serious environmental damage should not be postponed just because of scientific uncertainty about how serious the risk is;
- Using scientific knowledge to aid decision-making, and trying to work out in advance what knowledge will be needed so that appropriate research can be undertaken".

11. Planning for Climate Change (Section 4.5.2) states:

> "The Welsh Government has set out to achieve annual carbon reduction-equivalent emissions reductions of 3 per cent per year from 2011 in areas of devolved competence, which include land use planning".

12. Friends of the Earth Cymru has serious concerns that as a result of areas outwith devolved competence being specifically excluded from the 3% greenhouse gas emissions reduction target, due consideration to reducing greenhouse gas emissions resulting from shale gas/fracking

[1] In order to achieve this, the Committee on Climate Change has recommended a 60% cut by 2030, with average emissions in the power sector falling to 50gCO2e/kWh by that date. In May 2011 the Government accepted the Committee's recommendation for the level of the 4th budget - a limit of 1950 $MtCO_2e$ over the years 2023-2027, amounting to an emissions cut of 50% on 1990. The Government has accepted that the aim should be to deliver this through domestic action, though the use of credits has not been ruled out.

operations will not be subject to the same rigour in testing for the precautionary principle, nor for assessing the climate change impacts.

13. Furthermore, while PPW includes an extensive section (12.8) entitled "Renewable and low carbon energy", there is no equivalent section explaining planning policy on fossil fuel energy developments.

14. No Minerals Technical Advice Note for shale gas or unconventional gas exists. Thus the only specific minerals planning policy in relation to "all substances in, on or under land" that applies is Minerals Planning Policy Wales (MPPW)[2], published in 2000.

15. This policy document pre-dates commercial fracking anywhere in the world. Thus there is no policy specifically covering unconventional gas extraction in Wales. No mention is made at any point in this document of climate change. It is worth quoting the entirety of the document as it extends to onshore oil and gas extraction (excluding coal bed methane) in order to demonstrate the paucity of consideration given over to this matter:

> "Where oil and gas operations can be carried out in an environmentally acceptable way and consistent with the principles of sustainable development, there is no case in land use planning terms for placing more restrictions on the development than are necessary to ensure the protection of the environment. Development plans should indicate those areas where oil and gas operations are likely to be acceptable in principle subject to development control criteria being met in a particular case, as well as those areas where operations are unlikely to be acceptable. Policies should distinguish clearly between the three stages of exploration, appraisal and development.
>
> Mineral planning authorities should establish with the Department of Trade and Industry the areas which are licensed, and identify any environmental and other constraints on production and processing in those areas. The industry has an important role to play in making available to authorities information on their forward plans and the extent of known resources. The licence system brought into effect in 1995 introduced a single licence, the Petroleum Exploration and Development Licence (PEDL) covering exploration, appraisal and developmental activity. Activities under such licences must be carried out in accordance with the requirements for planning permission".

16. Friends of the Earth Cymru would like to highlight that no mention is made of the precautionary principle, of climate change nor of pollution, other than "ensure protection of the environment". This term is non-specific and open to wide interpretation by planning officials, committees and inspectors.

17. PPW (section 13) also notes:

> "LDPs should establish land-use planning policies which contribute to minimising and managing environmental risks and pollution. They should formulate policies relating to flood risk and climate change, contaminated and unstable land, air and water quality, noise and light pollution".

[2] National Assembly for Wales, December 2000, *Minerals planning policy Wales*

This suggests that Local Planning Authorities' Development Plans may not currently include land use policies relating to climate change, leaving local authorities vulnerable to fracking applications that could pre-date new plans with an explicit reference to mitigating climate change.

The precautionary principle

18. The precautionary principle is a principle at the heart of environmental law to which the UK Government has committed since the UK signed the *Rio Declaration on Environment and Development* in 1992. This states (at Principle 15) that:

> "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".

19. Article 191(2) of the Treaty on the Functioning of the European Union declares that EU policy on the environment "shall be based on the precautionary principle".

20. The precautionary principle is now one element of the requirement in the PPW to use sound science responsibly. The Interdepartmental Liaison Group on Risk Assessment (ILGRA), in its 2002 paper *The Precautionary Principle: Policy and Application*, made a number of important points including noting that the precautionary principle should be invoked when:

    - There is good reason to believe that harmful effects may occur to human, animal or plant health, or to the environment; and
    - The level of scientific uncertainty about the consequences or likelihood of the risk is such that best available scientific advice cannot assess the risk with sufficient confidence to inform decision-making[3].

21. The precautionary principle finds specific expression through international instruments to which the UK is a signatory including the Water Framework Directive and the Habitats Directive. The Water Framework Directive applies strict standards and controls in relation in particular to groundwater. Its approach to groundwater has been summarised as follows[4]:

> "The case of groundwater is somewhat different. The presumption in relation to groundwater should broadly be that it should not be polluted at all. For this reason, setting chemical quality standards may not be the best approach, as it gives the impression of an allowed level of pollution to which Member States can fill up. A very few such standards have been established at European level for particular issues (nitrates, pesticides and biocides), and these must always be adhered to. But for general protection, we have taken another approach. It is essentially a precautionary one. It comprises a prohibition on direct discharges to groundwater, and (to cover indirect discharges) a requirement to monitor groundwater bodies so as to detect changes in chemical composition, and to reverse any anthropogenically induced upward pollution trend. Taken together, these should ensure the protection of groundwater from all contamination, according to the principle of minimum anthropogenic impact".

[3] The Interdepartmental Liaison Group on Risk Assessment (ILGRA), in its 2002 paper *The Precautionary Principle: Policy and Application*

[4] http://ec.europa.eu/environment/water/water-framework/info/intro_en.htm

Evidence relating to climate change impacts

22. A recent Friends of the Earth Europe report[5] (Unconventional and unwanted: the case against shale gas, September 2012, p10) sums up the situation as follows:

- "Some studies have suggested that between 3.6 and 7.9 per cent of the total gas output of a shale gas well is lost through fugitive methane emissions[6]. This would mean that "compared to coal, the footprint of shale gas is at least 20 per cent greater and perhaps more than twice as great on the 20-year horizon"[7].
- In February 2012, one study that monitored emissions in air samples from a natural gas field near Denver found that about four per cent of the gas was lost to the atmosphere[8], suggesting climate impacts have been underestimated[9].
- According to the US National Academy of Sciences, "Given limited current evidence, it is likely that leakage at individual natural gas well sites is high enough, when combined with leakage from downstream operations, to make the total leakage exceed the 3.2 per cent threshold beyond which gas becomes at least comparably worse for the climate than coal for at least some period of time"[10].

23. The report 'Climate impact of potential shale gas production in the EU' (published September 2012) written by AEA Technology for DG CLIMA at the European Commission concluded:

> "Drawing upon these studies, and their underlying data sources, a hypothetical analysis has been carried out of the potential lifecycle GHG emissions that may arise from shale gas exploitation within Europe. In our base case, which does not represent a preferred scenario, we have estimated the GHG emissions per unit of electricity generated from shale gas to be around 4% to 8% higher than for electricity generated by conventional pipeline gas from within Europe. These additional emissions arise in the pre-combustion stage, predominantly in the well completion phase when the fracturing fluid is brought back to the surface together with released methane. If emissions from well completion are mitigated, through flaring or capture, and utilised then this difference is reduced to 1% to 5%. This finding is broadly in line with those of other U.S. studies which found that generation from shale gas had emissions about 2% to 3% higher than conventional pipeline gas generation." (page iv).

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[5] Friends of the Earth Europe, September 2012, *Unconventional and unwanted: The case against shale gas*

[6] Details about these climate figures can be found in the most recent US peer-reviewed science,.Howarth et al, "Methane Emissions from Natural Gas Systems", Background Paper Prepared for the National Climate Assessment, February 2012 (http://www.eeb.cornell.edu/howarth/Howarth%20et%20al.%20--%20National%20Climate%20Assessment.pdf)
Shindell et al "Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security", Science 335, 183 (2012)
Alvarez, R. Pacala, S. Winebrake, J. and al, "Greater Focus Needed on Methane Leakage from Natural Gas Infrastructure",13/02/2012 (http://www.pnas.org/content/early/2012/04/02/1202407109.full.pdf+html)

[7] Howarth, R. Ingraffea, A. Santoro, R. "Methane and the Greenhouse Gas Footprint of Natural Gas from Shale Formations", March 2011 (http://www.sustainablefuture.cornell.edu/news/attachments/Howarth-EtAl-2011.pdf

[8] http://thinkprogress.org/climate/2012/02/08/421588/high-methane-emissions-measured-over-gas-field-offset-climate-benefits-of-natural-gasquot/

[9] http://www.nature.com/news/air-sampling-reveals-high-emissions-from-gas-field-1.9982

[10] Alvarez et al 'Greater focus needed on methane leakage from natural gas infrastructure' http://www.pnas.org/content/early/2012/04/02/1202407109.full.pdf+html

Given the varying results depending on the technology used, the authors conclude:

> "In fact, for some pipeline sources emissions from shale gas may exceed emissions from importing conventional gas." (page iv).

24. Moreover, arguments relating to *relative* carbon intensity miss the point about urgent absolute decarbonisation.

25. The view of the Department of Energy and Climate Change is partly set out in their written evidence to the Energy and Climate Change Select Committee inquiry into 'The impact of shale gas on energy markets'[11]. In this, DECC quotes the International Energy Agency (IEA) conclusion in its 2011 report 'Are we entering a Golden Age of Gas?'[12] that emissions from shale gas extraction are higher than those for conventional gas extraction:

> "The IEA estimates that, provided methane emissions from shale wells are minimised by using appropriate technology, shale gas will have well-to-burner emissions that are 3.5% to 12% higher than the equivalent for conventional gas." (page 64)

26. The IEA's 2011 report 'Are we entering a Golden Age of Gas?' contained a GAS scenario in which, by 2035, global demand for gas increases by over 50% from today's levels; and to help meet this, unconventional gas production more than triples to 2035, representing a third of total gas production by that date. IEA concluded:

> "this emissions trajectory is consistent with stabilising the atmospheric concentration of greenhouse gases at around 650ppm, resulting in an average global temperature rise of over 3.5°C."(page 8)

This is clearly well above the 2°C maximum rise that the UK and other developed countries have said we must keep to. IEA has admitted:

> "we are not saying that it will be a golden age for humanity - we are saying it will be a golden age for gas"[13].

27. In its 2011 report 'Shale gas: An updated assessment of environmental and climate change impacts'[14] the Tyndall Centre for Climate Change Research published calculations looking at the impact on climate change of burning the known global resources of shale gas. This concluded:

> "the CO2 emissions from burning shale gas are estimated to occupy a substantial proportion, over a quarter, of a budget associated with a better than 50:50 chance of avoiding 2°C warming". (page 69)

The authors add that this figure is likely to be a conservative estimate as firstly, it only calculates carbon dioxide emissions from combustion (and so does not include for example the impact of

[11] http://www.publications.parliament.uk/pa/cm201213/cmselect/cmenergy/writev/isg/m01.htm
[12] http://www.worldenergyoutlook.org/media/weowebsite/2011/WEO2011_GoldenAgeofGasReport.pdf
[13] http://www.bbc.co.uk/news/science-environment-18236535
[14] http://www.tyndall.ac.uk/sites/default/files/coop_shale_gas_report_update_v3.10.pdf

fugitive methane emissions); and secondly it uses estimates of global shale gas reserves from the US Energy Information Administration which do not include figures for Russia and Central Asia, the Middle East, South East Asia and Central Africa (page 68).

28. In the same report, the authors assess the potential impact of shale gas on meeting the UK's legally-binding climate change targets. They conclude that emissions from using the UK's potential shale gas reserves could represent up 14.5% of the total UK greenhouse gas budget for the period 2010 to 2050 (page 67). Again, this only includes carbon dioxide emissions from combustion, and so does not include the impact of fugitive methane emissions.

29. Professor Kevin Anderson of the Tyndall Centre, in evidence to a House of Commons Committee Inquiry into shale gas[15], noted that "there simply is not the emission space available in the timeframe that we have to utilize shale gas".

30. The potential for UK shale gas is underpinning Government plans to build more gas-fired electricity generation. Friends of the Earth analysis of Government figures, reported in *The Observer* on 4 November 2012 'Huge scale of UK's 'dash for gas' revealed' [16], shows that in the last year the Government has quadrupled the amount of electricity it expects to be generated from gas in 2030. According to the Committee for Climate Change (Letter to Ed Davey, 12 Sept)

> "extensive use of unabated gas-fired capacity … in 2030 and beyond would be incompatible with meeting legislated carbon budgets"[17].

31. Shale gas advocates claim that its use has cut emissions in the US by replacing coal, and that we could replicate this in the UK. However analysis by Greenpeace in their report 'How the IEA and Harvard got it wrong on impact of shale on US emissions' (September 2012) [18] finds that renewables played a greater role than gas in emissions reductions in the US in recent years.

32. Analysis by the Tyndall Centre in 'Has US shale gas reduced CO2 emissions?' (October 2012)[19] shows that even if the US is using less coal because of more shale gas, millions of tonnes of unused coal are being exported to Europe and Asia, meaning the overall emissions benefits are overstated. The report finds that

> "more than half of the emissions avoided in the US power sector may have been exported as coal. In total, this export is equivalent to 340 MtCO2 emissions elsewhere in the world, i.e. 52% of the 650 MtCO2 of potential emissions avoided within the US" (page 2).

[15] House of Commons, 10 May 2011, *Energy and Climate Change Committee: Shale gas*
[16] http://www.guardian.co.uk/environment/2012/nov/03/uk-dash-gas
[17] http://www.theccc.org.uk/news/latest-news/1215-ccc-writes-to-ed-davey-over-government-stance-on-unabated-gas-fired-generation
[18] http://www.greenpeace.org.uk/newsdesk/energy/investigations/how-iea-and-harvard-got-it-wrong-impact-shale-us-emissions
[19] http://tyndall.ac.uk/sites/default/files/broderick_and_anderson_2012_impact_of_shale_gas_on_us_energy_and_emissions.pdf

33. An additional problem with shale gas is not just its own direct climate impact, but also the potential negative impact on investment in renewables. Professor Paul Stevens of Chatham House sums this up in the report 'The Shale Gas Revolution: Developments and Changes' (2012)[20]:

> "There is a growing fear that shale gas may substitute not for coal as many originally hoped, but for renewables" (page 1).

34. PriceWaterhouseCoopers issue a similar warning at the global scale in their 'PwC Low Carbon Economy Index' (5 November 2012), warning that while shale gas may 'buy some time',

> "it reduces the incentive for investment in lower carbon technologies such as nuclear and renewables, and could lock in emerging economies with high energy demand to a dependence on fossil fuels"[21].

35. Researchers from the Massachusetts Institute of Technology, reported in 'The influence of shale gas on US energy and environmental policy'[22], modelled different scenarios for the development of US energy policy. They found that the use of shale gas suppresses the development of renewables. In one scenario a renewable fuel mandate is imposed and when shale gas is used, use of renewables does not go above the 25 percent minimum standard set in the scenario but when shale is removed from the market, renewables gain more ground. They conclude:

> "in treating the shale as a "bridge" to a low carbon future there are risks to the development of technologies, like [carbon] capture and storage, needed to complete the task" (page 1)

36. The Committee on Climate Change has expressed its concerns about the impact of a 'dash for gas' on the development of renewable energy in a letter to Ed Davey[23]:

> "The apparent ambivalence of the Government about whether it is trying to build a low-carbon or a gas-based power system weakens the signal provided by carbon budgets to investors… damaging prospects for required low-carbon investments. This has been made clear to us in our extensive discussions with the energy and supply chain companies who it is hoped will fund the very significant investments needed in power generation over the next two decades, and who have suggested to us that the sector investment climate is currently very poor".

37. The context for the development of shale gas reserves in the UK in relation to climate change is that the Climate Change Act and the Committee on Climate Change have set out how the UK needs to meet its budgets. The purpose of the Act is for the UK to play its part in preventing dangerous climate change – and to do this it is cumulative emissions from now to 2050 that matter, not simply the end point in 2050. As part of this budget setting process, the CCC have set budgets to 2027 (which the Government has accepted) so that the UK makes a 60% cut on 1990 levels by 2030. The

20 http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/bp0812_stevens.pdf

21 http://press.pwc.com/GLOBAL/News-releases/current-rates-of-decarbonisation-pointing-to-6oc-of-warming/s/47302a6d-efb5-478f-b0e4-19d8801da855

22 http://globalchange.mit.edu/files/document/MITJPSPGC_Reprint_12-1.pdf

23 http://hmccc.s3.amazonaws.com/EMR%20letter%20-%20September%2012.pdf

CCC say this target is the "absolute minimum" compatible with its climate goals (which in themselves are compatible with a 60% chance of exceeding two degrees – a high level of risk to accept for something Government has said it must avoid). Within this the CCC says that decarbonisation of the electricity sector is an essential part of the most cost-effective path. They say this means cutting average emissions from around 500gCO2e/kWh now, to 50gCO2e/kWh in 2030. The CCC say that this means that unabated gas should account for no more than 10% of power generation in 2030, compared to over 40% today.

38. Friends of the Earth Cymru believes that this decarbonisation target can be met without the need for new nuclear power. As explained in a Friends of the Earth report 'A plan for Clean British Energy'[24], by 2030 renewables could account for around 2/3 of power generation, over half of this being offshore wind.

Scientific uncertainty about fracking

39. Friends of the Earth Cymru submits that emerging evidence indicates that there is risk of harmful effects to the environment from fracking. In particular, Friends of the Earth Cymru is concerned by well documented risks of groundwater contamination and from greenhouse gas (GHG) emissions.

40. In relation to groundwater contamination[25], The British Geological Survey (see attached document "Potential groundwater impact from exploitation of shale gas in the UK" (Stuart, 2012)) concludes that:

> "Groundwater may be potentially contaminated by extraction of shale gas both from the constituents of shale gas itself, from the formulation and deep injection of water containing a cocktail of additives used for hydraulic fracturing and from flowback water which may have a high content of saline formation water" (page 19).

The British Geological Survey report goes on to state that:

> "There are examples of surface water contamination from releases of fracturing water or flowback water. Documented instances of groundwater contamination from the US are all related to the leakage of methane into groundwater." (page 20).

41. Concerns in the US where fracking is widespread has led the US Environmental Protection Agency to produce a major study of the environmental and human health impacts which is due to be published in 2014. There is nevertheless already considerable evidence from the US of fracking leading to contaminated water supplies.

42. In relation to GHG emissions, it remains a matter of debate whether fracking is worse than conventional gas because although the emissions caused in using the gas are equivalent, the

[24] http://www.foe.co.uk/resource/briefings/plan_cbe_report.pdf

[25] European Commission report (August 2012) lists groundwater contamination as one of the 'high risk' concerns for the environment and human health from fracking - http://ec.europa.eu/environment/integration/energy/pdf/fracking%20study.pdf

production methods themselves contribute considerably to GHG emissions. Different studies have produced divergent results.

43. In a letter to Friends of the Earth, dated 29 October 2012, Secretary of State Ed Davey stated:

> "I agree that the climate impact of shale gas is as yet poorly characterised, that more research is needed, and that any reliance on shale gas must not be at the expense of our climate change targets"

44. It is these concerns and uncertainties which lead Friends of the Earth Cymru to remind the Welsh Government of the need to use sound science responsibly and to adopt a precautionary approach to fracking development.

45. Friends of the Earth Cymru is therefore concerned that current planning policy as laid out in PPW and insofar as it relates to the consideration of climate change and the major scientific concerns on fracking. Nor is the broad sweeping application of a single policy to all technologies irrespective of the state of scientific knowledge about their implications (as laid out in Minerals Planning Policy Wales) consistent with national policy.

46. In the light of this uncertainty, Friends of the Earth Cymru calls on the Welsh Government to apply a moratorium on fracking until such time as sufficient information is available to determine with a high degree of certainty the likely impacts of fracking on the environment.

Need for a new policy

47. Friends of the Earth Cymru submits that the issues arising from the untested nature of fracking are specific enough to merit a specific policy. Friends of the Earth Cymru's concern is particularly with the climate change and water quality implications of fracking. The following policy is proposed:

    Planning permission for fracking or shale gas operations (including test drilling and extraction) will not be granted unless
    a) the planning authority is satisfied that all reasonable scientific doubt that there is any risk of adverse impacts including groundwater contamination has been eliminated
    b) the proposal will not compromise the planning authority's duties in relation to climate change mitigation and adaptation; and
    c) the proposal is environmentally acceptable, or it can be made so by planning conditions or obligations.

The mechanics of the policy

48. The policy suggested by Friends of the Earth Cymru is designed to incorporate the principles of using sound science responsibly as derived from kindred spheres where the precautionary principle is applicable.

49. The application of a precautionary approach has been successfully led by the Habitats Directive. The practices required by that Directive can provide a model or an analogy from which a precautionary policy can draw. Where development likely to have a significant effect on a site protected by the Habitats Directive is anticipated, the approach which is taken is that a developer is required to provide the information necessary to allow a planning authority to undertake an "appropriate assessment". In *Commission v Spain* [2011] EUECJ C-404/09 at §100 the European Court held:

> "An assessment made under Article 6(3) of the Habitats Directive cannot be regarded as appropriate if it contains gaps and lacks complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the SPA concerned (see, to that effect, Case C-304/05 *Commission* v *Italy* [2007] ECR I-7495, paragraph 69)".

50. Article 6(3) of the Directive prohibits development until all reasonable scientific doubt as to any adverse effects of a development have been eliminated. In the leading case on the Habitats Directive, *Waddenzee* [2005] 2 CMLR 31the ECJ has specifically held that its interpretation of the Habitats Directive is an application of the precautionary principle (See paragraphs § 43-4).

51. Thus in other spheres where a precautionary approach applies, what is required is that:
    (a) The onus is on the developer to supply the information necessary to make an assessment of the risks and impacts of a proposal- this would include informing the local authority of the most up to date studies of the practice across the globe in the fair and balanced manner to be expected of any expert scientific report.
    (b) In the light of that information the local authority takes a decision on whether to consent to the proposal. Where impacts or risks are uncertain, it should refuse permission. That is the precautionary principle. To do otherwise is to gamble with the environment and to be scientifically irresponsible. There can be no objection to such an approach under Welsh planning law. Indeed the approach commended is consistent with national policy and any less stringent approach would be inconsistent with national policy.

52. Friends of the Earth Cymru's proposed planning policy requires a sound precautionary approach to decision-making. The amendments proposed by Friends of the Earth Cymru enshrine the Welsh Government's policy to use sound science responsibly. In adopting such an approach the public can have confidence that decisions are being taken responsibly and concerns about risks to the environment and indeed risks to human health are effectively eliminated.

53. The policy proposed by Friends of the Earth Cymru in this instance falls well short of far more precautionary approaches taken across Europe, for example:

    - Fracking is banned in France and Bulgaria.
    - There is a moratorium (ie temporary ban) in the Netherlands pending further research into the environmental impacts, with a study due to start next year
    - Draft legislation to enforce a two year moratorium in the Czech Republic is working its way through Parliament

- In Austria, plans by oil and gas company OMV to explore possible shale gas reserves in Lower Austria were stalled in summer 2012 following strong opposition, and the subsequent introduction in September 2012 of tougher environmental legislation led OMV to abandon drilling in Austria
- Fracking was stopped in North Rhine-Westphalia in Germany in November 2011, pending a study into the risks involved. The study, published in August 2012, concluded that there were numerous risks and uncertainties, and recommended no further drilling until further investigation. There is also a moratorium in the state of Thuringia.
- Switzerland: in April 2011 the Swiss Canton of Fribourg suspended all licenses for exploration of shale gas for an indefinite period.

The Environmental Impact Assessment (England and Wales) Regulations 1999

54. The Environmental Impact Assessment (England and Wales) Regulations 1999 require an Environmental Impact Assessment (EIA) for certain categories of development. However, currently only activities on sites covering an area of one hectare or more have to be screened to see whether an EIA is needed. Fracking operations have avoided this requirement by having sites covering an area of 0.99 hectares.

55. Friends of the Earth Cymru would like this loophole removed so that all developments that relate to the extraction of gas from subterranean sources are required to undergo and EIA – or as a minimum that they must go through the screening exercise to determine whether or not an EIA should be required.

P-04-423 : Cartref Nyrsio Brooklands

Geiriad y ddeiseb

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i ystyried a fyddai lleoli safle amwynder dinesig tua 30 metr o Gartref Nyrsio Brooklands yn tresbasu ar hawliau dynol preswylwyr y cartref.

Gwybodaeth ategol : Mae staff Brooklands a pherthnasau'r cleientiaid yn anfodlon iawn. Mae'r cyngor yn cynnig lleoli'r amwynderau dinesig o Ddinbych y Pysgod ger Cartref Nyrsio Brooklands. Rydym yn teimlo'n gryf y dylai'r preswylwyr dreulio'u diwrnodau olaf yn mwynhau heddwch a thawelwch, ac na ddylai sŵn, llygredd, traffig ac amhariad gan wylanod ac yn y blaen amharu arnynt. Mae ein cleientiaid yn oedolion bregus nad ydynt yn gallu mynegi eu barn ac felly mae angen eich cymorth chi arnynt. A hoffech chi dreulio gweddill eich bywyd â'r tip sbwriel yn gymydog i chi? Ni fyddem ni'n dymuno hynny. Gofynnwn i chi helpu gyda'n deiseb a llofnodi isod.

Prif ddeisebydd: Darren Umanee

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 2 Hydref 2012

Nifer y llofnodion: 115 Casglwyd dros 4484 o lofnodion gan ddeisebau cysylltiedig.

John Griffiths AC /AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-423
Ein cyf/Our ref JG/07202/12

William Powell AM

Chair Petition's committee

committeebusiness@Wales.gsi.gov.uk

6 November 2012

Dear William,

Thank you for your letter regarding the potential siting of a civic amenity site adjacent to Brooklands Nursing Home. I understand this matter is under consideration by the Petitions Committee and you are requesting a view on the planning aspects of the petition.

Discussion is currently taking place between Pembrokeshire County Council and the National Park Authority in relation to this matter but to date no planning application has been submitted. Given the statutory role of the Welsh Ministers in the planning process and that any subsequent planning application may come before me at some point in the future, it would not be appropriate for me to comment on the merits of this, or any specific, case. However, I am able to provide some general advice on national planning policy.

National Planning policy in relation to waste management is contained in Planning Policy Wales (PPW) and Technical Advice Note 21: Waste (TAN 21). National planning policy should be taken into account by local planning authorities and may be material to decisions on individual planning applications. The website links are:

Planning Policy Wales: http://wales.gov.uk/topics/planning/policy/ppw/?lang=en
Technical Advice Notes: http://wales.gov.uk/topics/planning/policy/tans/?lang=en

TAN 21 sets out specific planning considerations which local planning authorities should take into account as part of making a planning decision. These considerations include, amongst other things, the impacts associated with transport and access, noise, dust, visual impact and any measures which may be appropriate in mitigating environmental and amenity impacts.

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.John.Griffiths@wales.gsi.gov.uk

TAN 21 states that in making a decision on a planning application local authorities would be expected to consider the amenity of local communities. In addition, the environmental impact of any proposed facility must be adequately assessed in determining whether a planning application is acceptable. Where a proposal is environmentally unacceptable or would cause adverse impacts on amenity and the problems cannot be mitigated to an acceptable standard by conditions, planning permission should be refused.

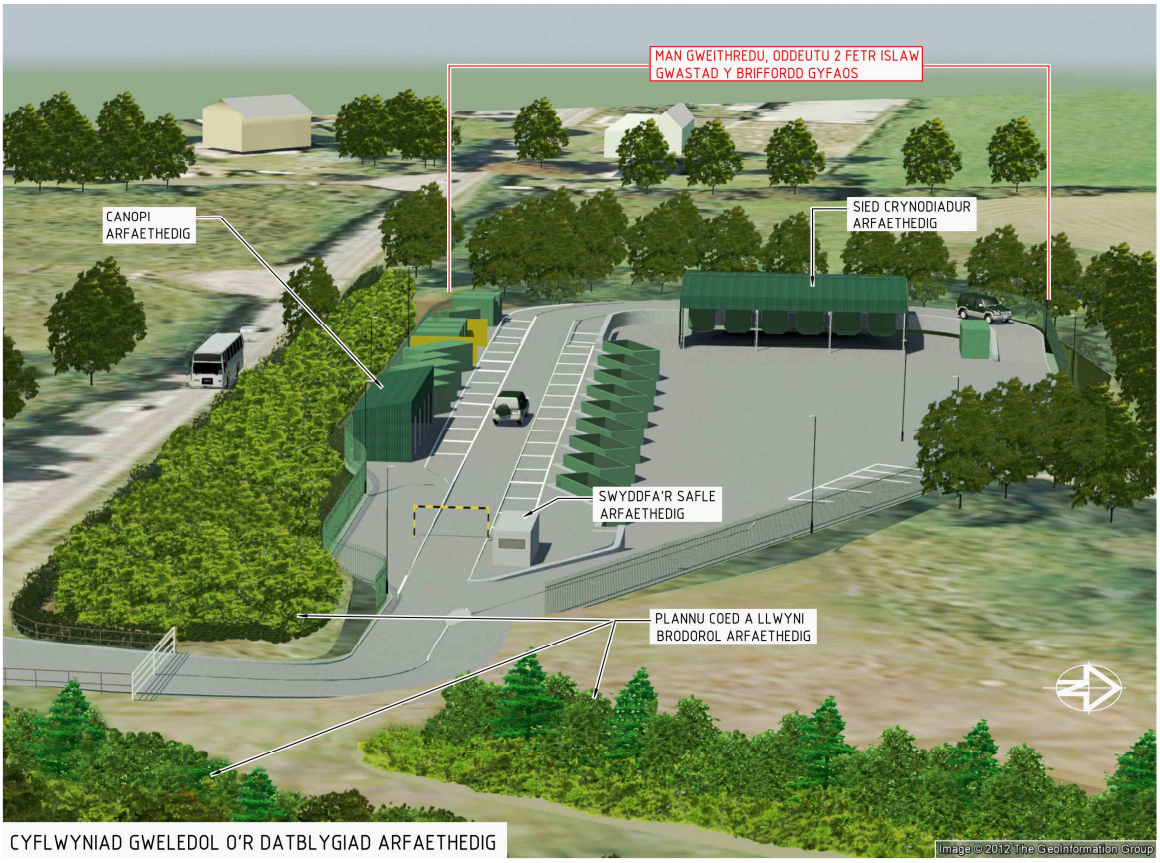
Yours,

John

John Griffiths AC / AM
Gweinidog yr Amgylchedd a Datblygu Cynaliadwy
Minister for Environment and Sustainable Development

Cynnig ar gyfer Canolfan Amwynder ac Ailgylchu Ddinesig

New Hedges, Sir Benfro



Rhif cyfeirnod: P-04-423 Cartref Nyrsio Brooklands

Cyflwynwyd deiseb i'r Bwyllgor Deisebau'r Cynulliad o'r enw 'Cartref Nyrsio Brooklands'.

Lluniwyd y ddogfen briffio hon gan Gyngor Sir Penfro sy'n cynnig gosod Canolfan Amwynder ac Ailgylchu Ddinesig newydd ger New Hedges, a'r bwriad yw rhoi dealltwriaeth i chi o gefndir y cynigion hyn.

Y Safle Amwynder Dinesig Presennol
Mae safle amwynder dinesig presennol De Ddwyrain Sir Benfro yn Y Salterns, Dinbych-y-pysgod yn fach, mae prinder lle ac mae'n anodd ei gyrraedd, yn enwedig ar gyfer pobl â phroblemau symudedd. Dim ond tua 60% o'r gwastraff a ddaw yno y gellir ei ailgylchu, lle mae'r rhan fwyaf o'r cyfleusterau eraill o'r math hwn yn y Sir yn ailgylchu mwy na 70%. Felly, nid yw bellach yn addas i'r diben ac nid oes lle i ehangu ac o ganlyniad mae angen dod o hyd i safle arall.

Y Broses o Ddewis Safle
Gwnaed proses dewis safle trwyadl er mwyn dod o hyd i safle arall. Nododd Cyngor Sir Penfro nifer o feini prawf ar gyfer y broses o ddewis safle. Roedd y meini prawf yn cynnwys:

- Safle mwy o faint na'r cyfleuster presennol yn Y Salterns, Dinbych-y-pysgod, er mwyn cael lle i wahanu ffrydiau gwastraff gwahanol
- Safle maint digonol a fyddai'n caniatáu lle digonol er mwyn gwahanu'r cyhoedd wrth weithgareddau gweithredol, er mwyn sicrhau diogelwch y cyhoedd a chaniatáu i'r cyhoedd ddefnyddio'r safle yn ystod gweithgareddau gweithredol
- Safle sy'n cynnig y gallu i ddatblygu cyfleuster modern sy'n gallu ateb gofynion cyfredol a gofynion yn y dyfodol
- Safle sy'n hawdd ei gyrraedd a chanddo gysylltiadau trafnidiaeth da

- Safle fydd wedi'i leoli i'r Gogledd o'r safle cyfredol yn ddelfrydol, ar goridor yr A478/A477, oherwydd bydd hyn gwasanaethu cymunedau Saundersfoot, Cilgeti, Begelly ac Arberth yn well heb fod yn anfanteisiol i drigolion Dinbych-y-pysgod, tra'n lleihau nifer y cerbydau sy'n mynd i Ddinbych-y-pysgod.
- Safle mewn lleoliad sy'n gweddu â lleoliadau'r safleoedd eraill ledled y sir (h.y. ddim yn rhy agos). Mae safleoedd eraill yn cynnwys: Waterloo (Doc Penfro); Hermon; Manorowen; Tyddewi; a Winsel a (Hwlffordd).

Gwnaed ymchwil fanwl dros nifer o flynyddoedd gan Gyngor Sir Penfro er mwyn nodi safle Canolfan Amwynder ac Ailgylchu Ddinesig posibl, yn lle'r cyfleuster presennol yn Ninbych-y-pysgod.

Safle Dewisol
Yn ystod y broses o ddewis safle, penderfynwyd yn erbyn nifer o'r safleoedd am nad oeddent yn bodloni'r meini prawf allweddol. Fodd bynnag, ar ôl i asiant tir lleol gynnal trafodaethau gyda nifer o berchnogion tir yr ardal daeth safle yn New Hedges ar hyd yr A478 i'r amlwg.

Mae manteision ffisegol a manteision o ran lleoliad i safle New Hedges, sy'n cynnwys:
- Lleoliad sy'n ganolog i leoliadau poblog fel Penalun, Dinbych-y-pysgod, Cilgeti a Saundersfoot
- Ffordd fynediad i'r A478 a safle sy'n cynnig llawr caled
- Ffin o goed aeddfed sy'n creu sgrin effeithiol ar hyd yr A478 ac ar hyd perimedr gweddill y safle
- Safle mwy o faint na'r cyfleuster presennol yn Ninbych-y-pysgod a fydd yn ei wneud yn bosibl gwahanu'r ffrydiau gwastraff gwahanol
- Safle a fydd yn ei gwneud yn bosibl gwahanu'r cyhoedd oddi wrth y gweithgareddau gweithredol, gan sicrhau diogelwch y cyhoedd a chaniatáu i'r cyhoedd ddefnyddio'r cyfleuster yn ystod oriau gweithredol
- Y cyfle i ddatblygu cyfleuster modern sy'n bodloni'r anghenion ailgylchu cyfredol a'r dyfodol

Dewiswyd y safle hwn yn New Hedges gan Gyngor Sir Penfro fel yr opsiwn gorau ar gyfer Canolfan Amwynder ac Ailgylchu Ddinesig newydd, ac mae'r Cyngor yn hyderus fod y mynediad delfrydol, i leihau yr effaith ar adeiladau gerllaw, a'i allu i gynnig yr ystod fwyaf eang posibl o opsiynau ailgylchu yn y Sir yn gwella cyfraddau ailgylchu'r ardal yn sylweddol.

Pryderon
Y prif bryderon sydd wedi dod i'r amlwg am y safle arfaethedig yn New Hedges yw pa mor agos ydyw at Gartref Nyrsio Brooklands, cartref gofal arbenigol i'r henoed sydd â chlefyd Alzheimer a dementia. Mae'r pryderon dan sylw yn bennaf yn ymwneud â sŵn, arogl a mynediad i'r briffordd. Mae Cyngor Sir Penfro wedi cynnal nifer o gyfarfodydd wyneb yn wyneb dros gyfnod o amser gyda chynrychiolwyr o Brooklands er mwyn deall eu pryderon ac ateb eu cwestiynau am y cyfleuster arfaethedig.

Mae'r Cyngor wedi ystyried y pryderon hyn yn ofalus iawn, ac wedi gwneud newidiadau i'r cynlluniau er mwyn sicrhau y bydd sŵn ac arogl y safle yn cael eu lleihau gymaint â phosibl, gan gynnwys cyflwyno dulliau atal sŵn. Mae arbenigwyr wedi cael eu cyflogi er mwyn cynnal asesiadau ar y safle er mwyn mesur effaith y sŵn, ac mae'r rhain wedi profi bod yr effaith ddisgwyliedig yn ddibwys. Ni fydd arogl yn broblem ar y safle oherwydd bydd unrhyw wastraff gweddilliol na fydd yn gallu cael ei ailgylchu yn cael ei gadw mewn cynwysyddion caeedig a fydd yn cael eu lleoli ym mhen pellaf y safle.

Yn ogystal â chyfarfod ag aelodau unigol y gymuned ar gais, trefnwyd arddangosfa wybodaeth gydag aelodau'r gymuned leol er mwyn ateb eu cwestiynau am y safle newydd arfaethedig yn New Hedges. Mae Cyngor Sir Penfro hefyd wedi cymryd camau er mwyn rhoi sicrwydd i'r gymuned leol o'r broses fanwl sydd wedi ei chynnal er mwyn dod o hyd i safle newydd a rhoi mesuriadau ar waith er mwyn sicrhau bod y safle yn cael cyn lleied o effaith â phosibl ar yr ardal gyfagos.

Ers datgan mai New Hedges yw'r safle dewisedig ar gyfer Canolfan Amwynder ac Ailgylchu Ddinesig newydd, mae unigolion wedi awgrymu safleoedd ychwanegol. Mae'r rhain i gyd wedi cael eu hystyried yn ofalus gan Gyngor Sir Penfro yn erbyn y meini prawf, ond daethpwyd i'r casgliad eu bod i gyd yn anaddas, ac felly maent wedi cael eu diystyru.

O ganlyniad i'r gwaith asesu dwys a wnaed o'r safle, mae Cyngor Sir Penfro wedi dod i'r casgliad mai'r unig leoliad posibl ar gyfer Canolfan Amwynder ac Ailgylchu Ddinesig yw'r safle arfaethedig yn New Hedges.

Mae'r canlynol yn darparu atebion i'r cwestiynau sydd wedi cael eu codi:

Beth yw Canolfan Amwynder ac Ailgylchu Ddinesig a pha fath o wastraff a fydd yn cael ei drin yno?
Nid yw Canolfannau Amwynder ac Ailgylchu Ddinesig yn safleoedd tirlenwi; maent wedi'u cynllunio'n benodol er mwyn ei wneud yn hawdd i'r cyhoedd ailgylchu a gwaredu eu gwastraff cyffredin bob dydd. Bydd y cyfleuster arfaethedig yn New Hedges wedi'i neilltuo ar gyfer gwastraff gweddilliol cyffredinol y cartref (gwastraff heb ddeunydd ailgylchadwy ynddo) a fydd yn cael ei gwasgu a'i storio mewn cynhwysydd caeedig wedi'i selio. Bydd hefyd yn derbyn deunyddiau a fydd yn cael eu hanfon i'w hailgylchu, fel caniau dur ac alwminiwm, gwastraff gwyrdd o'r ardd, papur, poteli gwydr, matresi, carpedi, eitemau trydanol fel teledyddion, a nwyddau gwynion fel oergelloedd a rhewgelloedd.

Bydd y safle hefyd yn delio gyda deunyddiau cartref sy'n cael eu diffinio fel 'gwastraff peryglus'. Mae'r rhain yn ddeunyddiau y byddech yn dod o hyd iddynt yn y cartref fel paent, olewau, tiwbiau fflworoleuol, batris a chynhyrchion eraill y cartref.

Pam y dewiswyd y safle yn New Hedges fel y lleoliad mwyaf ffafriol, does bosib nad oes safleoedd gwell ar gael yn y Sir?
Mae Cyngor Sir Penfro wedi cynnal asesiad manwl a thrylwyr o'r safleoedd posibl ledled De Ddwyrain y Sir, a'r safle yn New Hedges sydd wedi dod i'r amlwg fel y safle sydd fwyaf addas. Gellir cyrraedd y safle yn hawdd o'r A478, ac, yn bwysig iawn, mae'n ddigon mawr i gael ei ddylunio mewn ffordd a fydd yn lleihau unrhyw effaith ar eiddo gerllaw. Er enghraifft, bydd y sgip agosaf at drigolion gerllaw dros 100 metr oddi wrthynt.

Oni fydd y safle yn ddrewllyd ac yn denu fermin?
Na fydd. Bydd unrhyw wastraff gweddilliol sy'n dod i'r Ganolfan Amwynder ac Ailgylchu Ddinesig yn cael ei gywasgu a'i gadw mewn cynwysyddion wedi'u selio o dan ganopi, ac wedi'u lleoli mwy na 130 metr i ffwrdd o'r eiddo agosaf a dros 200 metr i ffwrdd o Gartref Nyrsio Brooklands. Bydd y cynwysyddion gwastraff yn cael eu cludo o'r safle sawl gwaith yr wythnos. Ar hyn o bryd mae gan safle Y Salterns yn Ninbych-y-pysgod tua 160 o gartrefi a 40 o garafanau **o fewn** 200 metr i'r cynwysyddion gwastraff gweddilliol ac nid yw wedi cael unrhyw gwynion ynglŷn â drewdod wrth drigolion cyfagos.

Oni fydd yn hyll, yn enwedig ar gyfer pobl sy'n byw gerllaw?
Na fydd; bydd y cyfleuster wedi'i ddylunio i fod yn ystyriol o'r amgylchedd. Bydd y ffordd fynediad at y safle a'r cynwysyddion gwastraff yno wedi'u gosod yn is na lefel y ffordd fel na ellir eu gweld o'r adeilad agosaf nac wrth y brif ffordd. Hefyd, bydd y mwyafrif o'r llwyni a'r coed sydd eisoes yno yn cael eu cadw yng nghynllun tirweddu'r cynnig. Mae'r cynnig hefyd yn cynnwys plannu coed a llwyni newydd fel na ellir gweld y safle o'r adeilad cyfagos nac o'r brif ffordd.

A fydd yn swnllyd?
Mae asesiadau manwl wedi'u cynnal gan arbenigwyr lefelau sŵn ar y safle. Bydd y lefelau sŵn o'r cyfleuster yn is na'r sŵn cefndir cyfartalog sydd eisoes yn cael ei gynhyrchu gan draffig ar yr A478; y sŵn cefndir yw'r lefelau sŵn isaf sydd wedi cael eu cofnodi ar y safle. Bydd canol y ffordd fynediad i'r safle dros 50 metr i ffwrdd o'r cartref agosaf (Cartref Nyrsio Brooklands), lle mae canol yr A478, gyda'i thraffig swnllyd a chyflym ond 18 metr i ffwrdd o Brooklands. Bydd y traffig a fydd yn cael mynediad i'r safle yn teithio'n araf, gan greu'r sŵn lleiaf posibl a bydd dyluniad y cyfleuster yn gweithredu fel rhwystr i unrhyw sŵn posibl.

A fydd yn arwain at gynnydd sylweddol mewn traffig?
Ar hyn o bryd mae 9,900 o gerbydau ar gyfartaledd yn teithio ar hyd ffordd New Hedges ar yr A478 bob dydd. Bydd y datblygiad newydd yn golygu y bydd 340 o gerbydau'n ei defnyddio bob dydd, yn ogystal â 3 cherbyd nwyddau trwm (HGV) a fydd yn cymryd gwastraff o'r safle. Disgwylir i'r datblygiad newydd gynyddu'r traffig dyddiol ar gyfartaledd ar yr A478 i 10,586 o gerbydau ar hyd y llwybr New

Hedges, a disgwylir y bydd effaith y traffig a ddaw yn sgil hynny yn ddibwys. Yn ogystal, rhagwelir y bydd lôn gerbydau'r A478 yn gweithredu ymhell o fewn ei chapasiti ar ôl agor y Ganolfan Amwynder ac Ailgylchu Ddinesig arfaethedig.

Sut bydd y cyfleuster newydd yn helpu i wella cyfraddau ailgylchu yn yr ardal?
Y safle amwynder dinesig presennol ar gyfer De Ddwyrain Sir Benfro yn Y Salterns, Dinbych-y-pysgod, yw'r safle gwaethaf o ran perfformiad yn y Sir ar hyn o bryd, gyda chyfradd ailgylchu o oddeutu 60%. Y rheswm dros hyn yw bod problemau mynediad i ddefnyddwyr, ac yn benodol, y ffaith y gall y defnyddwyr ond gael mynediad i nifer o'r cynwysyddion drwy ddringo grisiau i'w cyrraedd. Mae'r diffyg lle sydd ar gael ar y safle hefyd wedi golygu na fu'n bosibl datblygu'r cyfleusterau ailgylchu fel y safleoedd eraill yn y Sir.

Bydd y cyfleuster arfaethedig newydd, o'r radd flaenaf yn New Hedges yn cynnwys yr ystod ehangaf posibl o opsiynau ailgylchu yn y Sir, sy'n gyfartal â Chanolfan Amwynder ac Ailgylchu Ddinesig Waterloo, Doc Penfro. Bydd mynediad a diogelwch gwell i'r cyhoedd, newidiadau i ddulliau rheoli traffig ac ardaloedd ar wahân ar gyfer mannau gweithredol a chyhoeddus yn golygu y caiff y defnyddwyr brofiad gwell a chyfle i gasglu deunydd ailgylchu o ansawdd da. Drwy ddarparu cyfleusterau gwell i drigolion De Ddwyrain Sir Benfro, rhagwelir y bydd y cyfraddau ailgylchu yn y cyfleuster newydd yn cynyddu i fod yn uwch na 70%.

Os hoffech gael gwybodaeth bellach neu os oes gennych unrhyw gwestiynau nad ydynt yn cael eu hateb yn y ddogfen hon, cysylltwch â Chyngor Sir Penfro ar 01437 764551 neu anfonwch neges e-bost at wastemanagement@pembrokeshire.gov.uk

Dear Sirs

Our client: Brooklands Nursing Home Limited

Further to your e-mail of 19 November 2012, please find below our client's comments on the correspondence provided:

The process undertaken by Pembrokeshire County Council ("PCC") in preparing for submission of a planning application for New Hedges for the site of a new Civic Amenity Site has failed to apply the level of transparency and community engagement that one would expect in the context of the siting of the type of facility which is recognised by TAN 21 (Waste) as being normally sited in an industrial site or in an area away from residential areas.

The owner of Brooklands Nursing Home (which is immediately adjacent to the site) and other local landowners whose interests could reasonably have been expected to be affected by the submission only discovered the intention to apply for planning permission for the site by way of a letter from PCC hand delivered to them on 10 July 2012.

Only as a result of objections has PCC now taken steps to engage with any consultation but in reality the consultation which the Council is undertaking is simply to overcome the defect in the process and is not genuine consultation with a view to considering views expressed with the possibility of altering the decision (as amply reflected in the submission to the Petition's Committee)

<u>The Existing Civic Amenity Site</u>

The submission from PCC refers to the existing site at the Salterns as no longer being fit for purpose specifically because it sends around only 60% of the waste it receives for recycling whereas other in the county achieve 70% recycling rates.

- PCC should identify the rates for each other civic amenity site and what steps have been taken to collect data and to analyse such data to identify the reasons why the material submitted at the Salterns is less capable of being recycled.

- PCC has not explained why the alleged lower recycling performance at this CAS is evidence of the unsatisfactory nature of the site as opposed to the recycling behaviours of the people attending this site, the type of waste being deposited at the site (and how this relates to the behaviour of those attending the site in relation to kerbside recycling and standard waste collection service) and/or management of this particular site.

- PCC has not provided evidence of lower total recycling by the "catchment" area of the CAS (which might have been expected to have been provided by PCC if they wished to put forward a strong case).

- Even had PCC offered such evidence one would also have expected it to have been supported by critical analysis including customer feedback and consultation to confirm that the assumption (as that is all it could be in the absence of proper testing and evaluation) as to relationship with alleged deficiencies in the CAS is valid. This has also not been provided.

- PCC hasn't provided any evidence that the CAS isn't capable of taking all recyclable waste which might be expected to be delivered to it based on comparison with data from other sites and their catchment areas. No evidence has been offered of longer queuing to enter the site than at other sites or feedback from customers as to that being the reason why they don't use the site.

- Even had PCC provided such evidence one would expect PCC also to have produced a business case to identify options for overcoming the perceived deficiencies. That business case would be expected to have considered options (with detailed analysis of potential impact) of:

    - steps which might be taken to improve any of the alleged deficiencies in the site;

    - whether retention of the existing site with another smaller site being provided might be able to provide the required capacity and capability (therefore, splitting the traffic levels across two sites and providing two convenient locations for users in those areas and better satisfying a number of the criteria identified in the PCC submission regarding for example location to suit communities of Saundersfoot, Kilgetty, Begelly and Narberth without due disadvantage to Tenby residents and a site which complements locations of other CAS's across the county).

Such a business case would have been expected to include a comparison with the effectiveness of small civic amenity sites in the UK which manage to achieve higher recycling targets and whether improvements to this CAS (including management of the site) might be capable of addressing any shortcomings. The business case would then consider the various options in the context of a cost/benefit analysis. No evidence of such a business case has been provided (notwithstanding that PCC will be aware of concerns as to lack of transparency in the process they have adopted to date).

It should also be noted that the report from the Welsh Audit Office entitled "Public Participation in waste Recycling" highlights the necessity for waste authorities to collect and utilise data to demonstrate the impacts of the operational decisions in connection with waste to ensure that decisions are then properly informed. Consequently, it was essential that the business case was developed on up to date and detailed data.

Also whilst the criteria have been identified, no objectives which should have been the key drivers for the choice of criteria have been identified. There is no identification of the detailed need – for example how many additional "tipping" movements needed to be accommodated which could not be accommodated at the existing site etc. A vague requirement for "a site larger than the current facility" reflects the fact that the approach undertaken by PCC is poorly considered and insufficient and very different from the alleged "rigorous site selection process".

The identification of criteria for an options appraisal for a new site based on such vague notions without the evidence base and analysis which a business case would have provided should be considered to be unreliable and inappropriate.

<u>Site Selection Process</u>

It is stated that a rigorous site selection process has been undertaken but no evidence of this has been offered or produced. A number of issues would need to be explored with the benefit of the "rigorous" option appraisal report (which should be readily available to the public)

- Criteria have been identified in the submission as having been "included" in the assessment. PCC should be required to:

    - identify all the criteria which were applied;

    - the weightings used for each criterion;

- PCC should then explain how such criteria were chosen as the key criteria for the options appraisal and weightings allocated including:

    - who by;

- using what process (including whether PCC has followed Treasury guidance on option appraisal processes);

- when;

- are the criteria still as valid for current circumstances and current strategies and policy? It is stated in the submission that research and investigation to identify sites has taken place over a number of years and this either suggests that the criteria themselves are a number of years old or that the criteria have been developed to reflect the identification following that extensive investigation of a site at New Hedges (which would be wholly inappropriate for the purpose of a proper options appraisal in accordance with Treasury guidance);

- were they reported to the Executive as being the chosen criteria prior to their being used for the options appraisal work (and if so PCC should provide the report to the Executive recommending those criteria) or simply produced as part of the options appraisal (in which case they would appear as a fait accompli);

- which stakeholders were engaged in setting the criteria and weightings, how and when (and what criteria were utilised in deciding who the relevant stakeholders were);

- do the criteria properly mirror the approved waste strategy and can this be demonstrated;

- do the criteria properly mirror the transport strategy and can this be demonstrated (eg by making residents of Tenby travel outside the area and thereby actually contradicting one criterion of reducing number of vehicles entering Tenby – on the return journey);

- In which of the criteria which PCC have identified and were allegedly used in the options appraisal was the issue of adverse impacts of the development of the CAS considered? The development of each site for a CAS would potentially have different impacts on the surrounding areas and uses. This would be reasonably expected to be reflected in the options appraisal? Has this taken place?

- Similarly the development of each site for a CAS would potentially have different costs. How was cost taken into account in the criteria used and applied in options appraisal?

- PCC should be required to disclose the “significant amount of research and investigation” as a matter of meeting the requirements for transparency. Objectors have yet to be provided with anything other than a list of sites considered and a simplistic and inadequate “pro/con” style assessment which cannot amount to the “rigorous site selection process” claimed by PCC. No detailed assessments relating to the potential sites have been made available;

- PCC should explain what site investigations have been undertaken to constitute the “significant amount of research and investigation” including:

    - when they were undertaken;

    - what resources were applied (eg. they state in the subsequent part of the submission that a local land agent had approached a number of landowners. Were all local land agents approached to investigate availability of sites? If so, when and for what period? If not, why was that decision made, by whom and when? PCC should demonstrate the period and on what terms/objectives it engaged each land agent (including any criteria which each land agent was required to adopt to identify potential sites) and confirm that all sites which had been identified by the land agents were considered under the options

appraisal process and where is the evidence of that process and consideration by the Executive – see also questions above concerning this process);

- what processes they undertook (eg did they send a written call-for-sites to all land agents and valuers or utilise any advertisements to seek suggestions. If not, why not. If they did were any of these processes renewed prior to finalising the options appraisal if, as suggested in the submission, this process has been going on for a number of years?);

- which stakeholders did they engage with, how, when and utilising what mechanisms (eg was there appropriate community engagement and consultation).

Preferred Site

The submission identifies that New Hedges was identified as the best option for a new CAS identifying a number of alleged benefits of the site. However there are a number of questions which aren't addressed:

- No details have been provided over the site selection process, who undertook it and when;

- Assuming that the site selection process took place utilising criteria referred to in the submission (about which a number of questions have been raised above) then which were the other short listed sites for the detailed option appraisal and what were the respective scores? Why has this information not been released?

- The report to the Executive Committee should be provided with the details of the reasons why New hedges was identified as the "best option" and the corresponding scores of the other sites considered in the options appraisal so that the Executive Committee could make a fully informed decision;

- Only alleged benefits have been identified in the submission which raises considerable concern as to the robustness and validity of the options appraisal. The submission does not suggest that all disadvantages were considered at the outset of the options appraisal but rather that "the main concerns that have been raised about the proposed site" suggesting this is simply a reactive consideration. This raises the fundamental question - when and at what stage in the process did PCC recognise that the property adjacent to this site was a sensitive nursing care home providing a number of specialist EMI beds? If it was not identified within the written options appraisal then the options appraisal is flawed and demonstrates that it has been used only to justify a decision which had already been taken.

- where is the consideration as to the impact on the operation of the home both in terms of a business (eg impact on attracting new customers and retaining existing customers), in terms of the impact on those customers (eg in terms of the health and well-being of the customers having regard to their specific conditions) and in operational and safety terms (eg in the event of an emergency event at the CAS then any evacuation of the nursing home could be very detrimental to the health and well-being of the residents particularly having regard to the risks associated with moving people with such conditions)?

- Why was the owner of the Brooklands Nursing Home not approached for his views and input as part of any stakeholder consultation which took place or as part of the options appraisal particularly as this is a specialist facility and PCC would have needed to understand the impacts which would have included medical advice (eg compare the position when closing down a nursing home and moving customers);

- when and how was the planning status of the site considered in the context of the options appraisal. How and on what basis (and expert advice) was it considered that the site would be

suitable in the options appraisal when the site had previously been deemed unsuitable for development as set out below:

  - NP/05/347 – Application for toilet facilities for walkers – Refused 26/09/05 for reason that the proposal would constitute unacceptable development in the open countryside and would contravene policies GE1, GE2 and TO3 of the Unitary Development Plan
  - PCNPA Local Development Plan – Land Allocations: Site rejected at Stage 2 (site evaluation) for the reason that development would impact on the National Park's Special Qualities. Stage two evaluation stated that development at this site "*would be intrusive within the wider agricultural landscape, and is likely to be detrimental to the special qualities of this area which forms a significant approach to coastal settlements at this area*".

- in the circumstances it is appropriate to require sight of all instructions/directions/guidance to the persons undertaking the site selection process and require an explanation for the basis of these instructions/directions/guidance. In the absence of any instructions/directions and /or guidance then an explanation should be provided as to how the options appraisal was intended to be objective, fair and transparent;

- in identifying the alleged benefits of the site, no mention is made as to how this relates to data collected to inform the process as to the impact of the allocation of this site for CAS on the behaviours and requirements of the residents of the relevant areas in relation to their recycling behaviour including transportation

<u>Concerns</u>

It is alleged that PCC have undertaken a "number of face to face meetings over a substantial period" – until 10 July, the owners of Brooklands Nursing Home were unaware of the intended development of the site and have only met with PCC officials 3 times, with the first meeting being on 11 July. This must also call into question PCC's self-assessment in terms of the process which it has adopted - "rigorous" (in connection with their site selection process) and "significant" (in connection with the amount of research and investigation carried out).

The fact that PCC states that it has taken concerns expressed by Brooklands Nursing Home into account in making changes to ensure noise and odour from the site will be kept to an absolute minimum is equally of concern. Had the option appraisal been undertaken correctly these relatively obvious issues should not have required any "change" but would have been recognised at the outset.

Noise impact reports should form part of an EIA which we consider is essential to be undertaken in respect of this site but which PCC have tried to avoid. Pembrokeshire National Park Authority have been informed that should an application be accepted without being supported by an EIA then the owners of the home have reserved the right to challenge that decision. The ground given for not requiring an EIA (namely that PNPA consider that the issues can be dealt with as part of the planning application without an EIA is not considered to be a valid ground and the reason given on behalf of PCC in support of its application for a decision that an EIA was not required is considered to have been misleading.

Notwithstanding requests for the noise reports produced as a result of the noise assessments which PCC claim to have undertaken, they have not been provided. It is considered that the noise reports will not follow guidance as to the way in which noise assessments should be carried out having regard to the fact that no request for access onto the Brooklands Nursing Home property has been requested. Furthermore in assessing the noise levels it is not identified during which periods, on how many occasions, what times of the day and even in what seasons these assessments have been carried out and how constant the noise levels have been.

The process of consulting with and involving the community in the process has been unsatisfactory. It is considered that there has been insufficient notice of community meetings to discuss the proposals and

the attempt to engage with the community has been derisory and just going through the motions, although very belatedly late (with first attempts being made only when the application was shortly expected to be lodged).

PCC should be asked to set out a detailed chronology identifying:

- when the option appraisal was carried out;
- when a decision was made that New Hedges was the preferred site;
- when a decision to apply for planning permission was made;
- when the planning authority were first approached about siting the CAS at New Hedges and details of all meetings and correspondence with the planning authority concerning New Hedges;
- details of any other discussions with the planning authority in respect of alternative sites identified in the options appraisal
- when public consultation was first commenced and notice given to all residents affected by the proposal; and
- the communication strategy/policy for the proposal and when this was adopted.

PCC should also be asked to expand their explanation of what steps they have undertaken "to reassure the local community of the rigorous process that has been undertaken to identify a new site and to put in place measures to ensure the site has as minimal an impact as possible on the surrounding area"? These should be set out and considered in the context of a decision having already been made to make the planning application.

It should be of considerable concern that PCC acknowledge that after the announcement of New Hedges as the preferred site that additional sites have been suggested which appear not to have figured in the original identification of site and appraisal. It suggests that the original process was not rigorous in identifying all suitable sites and that if the process were re-commenced on a full consultation and engagement basis that other sites might be forthcoming (rather than apparently relying on individuals to identify sites).

It is not explained whether these additional sites have been properly evaluated using the option appraisal process and scoring. It is simply stated that they were considered to be unsuitable without explaining the relative scores that the sites were allocated. However we would also highlight that as disadvantages do not appear to have been considered as part of the options appraisal (see comments above) then even had the sites been appraised in accordance with the options appraisal the process would still have been defective.

By failing to adopt a robust and properly prepared and developed process the decision to choose New Hedges as the preferred site for the CAS has inevitably relied upon assumptions and unreliable or missing information (as to the impacts on the customers/patients at the Nursing Home).

Such a cursory attempt at identifying the key issues and understanding the impacts means that the process fails to achieve what can reasonably be expected of a public body fulfilling its statutory and common law duties. The impact on the residents/customers of the Home are considered likely to amount to interference with their Human Rights

The assessment of the traffic increase requires considerably greater explanation. The basis for and assumptions made within the calculations should be set out in detail.

The calculations indicate an increase in traffic of 7% which itself would be considered a significant increase (rather than "negligible"). Also such an increase cannot be simply ignored:

- in terms of duration of noise (as more traffic will mean noise from traffic may be more constant);

- in the context of likely impact on traffic including safety in the context of queuing on and crossing a road which carries traffic at significant speeds;

- in the context of traffic entering the Home (particularly emergency vehicles) which may be badly affected in the event of queuing to enter the CAS

- in terms of impact on seasonal traffic.

The response of PCC in the submission rather re-emphasises the point that such issues are not being given proper consideration by PCC who are merely glossing over any disadvantages in the site.

There still appears to be no appreciation by PCC of the vastly more sensitive nature of the adjacent site than just a domestic dwelling. Any increase in noise or duration of noise (or even perception of noise) will have significantly greater impact on the residents/patients and those wishing to place their family members at the Home. PCC also do not appear to have undertaken any assessment on the impact of the likely noise from the site (rather than simply the traffic) and the noise impacts on the rear of the Home (where noise from traffic would be reduced but noise from the CAS would not).

The reference to no complaints having been received in respect of the Salterns is misleading as level of complaints will also relate to the period over which the site has been operating. No recent complaints in respect of a facility which has existed for a significant period is to be expected unless there had been a change in operations which increased smell. Odour impacts will depend on considerably more than mere distance and therefore if it is being alleged that there is/will be no odour caused by the CAS then this should be properly tested at each site. It is also not clear what the distance will be to the nearest container from Brooklands Nursing Home as compared with the existing CAS to the nearest house.

Please could you kindly acknowledge receipt.

Yours faithfully

HUGH JAMES

P-03-263 Rhestru Parc y Strade

Geiriad y ddeiseb

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i annog y Gweinidog dros Dreftadaeth i roi statws rhestredig i Barc y Strade, er mwyn diogelu treftadaeth y maes rygbi byd enwog a'r eicon diwylliannol hwn i bobl Cymru.

Cynigwyd gan: Mr V Jones

Y dyddiad yr ystyriodd y Pwyllgor y ddeiseb am y tro cyntaf: Tachwedd 2009

Nifer y llofnodion: 4,383

Deiseb i restru Parc y Strade

Cafodd y ddeiseb i restru Parc y Strade ei hysbrydoli gan alwadau "*i wneud rhywbeth*" i ddiogelu treftadaeth y lleoliad enwog hwn. Mae'n arwyddocaol bod y galwadau hyn wedi parhau wedi i'r Scarlets symud ar draws Llanelli i'w stadiwm newydd. Mae'n amlwg bod Parc y Strade yn fwy na dim ond stadiwm lle byddai pobl yn gwylio rygbi – mae'n rhan o ddiwylliant lleol ac o dreftadaeth genedlaethol.

Gellir diffinio eicon diwylliannol fel unrhyw beth sy'n hawdd ei adnabod ac, yn gyffredinol, mae'n cynrychioli gwrthrych neu gysyniad sydd â chryn arwyddocâd diwylliannol i grŵp diwylliannol eang. Ymhen amser, gall fod â statws arbennig fel rhywbeth sy'n cynrychioli grŵp arbennig o bobl neu gyfnod arbennig mewn hanes.

Mae Parc y Strade yn symbol o gefnogaeth cymuned Gymreig i'w chlwb rygbi yn yr ugeinfed ganrif – y mae, heb amheuaeth, yn eicon diwylliannol.

Mae Parc y Strade yn adnabyddus drwy'r byd i gyd, nid yn unig oherwydd gorchestion y rhai a fu'n chwarae ar y cae enwog, ond hefyd oherwydd cefnogaeth angerddol y rhai a fyddai'n heidio i'r eisteddle a'r teras yn ystod y gemau, ac yn heidio ar y cae ei hun yn ystod hanner amser ac ar ôl y chwiban olaf.

Daeth y gefnogaeth honno'n enwog drwy'r byd fel cefnogaeth nodweddiadol Gymreig, a chryfhawyd y ddelwedd gan ganeuon yn dathlu buddugoliaethau enwog ym Mharc y Strade, fel cân "9-3" Max Boyce am fuddugoliaeth 1972 dros y Crysau Duon – y tro diwethaf i unrhyw dîm clwb eu trechu. Mae'r geiriau "All roads led to Stradey Park", "The day the pubs ran dry" ac "I was there" i gyd yn ein hatgoffa o'r diwrnod hwnnw ym Mharc y Strade pan gafodd y capten, Delme Thomas, ei gario oddi ar y cae gan ei gyd chwaraewyr, drwy ganol miloedd o gefnogwyr.

Pan sonnir am Barc y Strade, y darlun a ddaw i'r meddwl yw gweithwyr yn gorffen eu sifft yn y gweithfeydd tunplat, y dociau neu'r pyllau glo cyn

chwarae gêm o flaen miloedd o'u cydweithwyr o Tinopolis. Gosodwyd y sosbenni enwog ar byst y Strade i gyfeirio'n uniongyrchol at y prif gynnyrch a allforiwyd o Lanelli - tunplat - ac yn enwedig y gwaith "stampio" lai na milltir o Barc y Strade lle byddai sosbenni'n cael eu cynhyrchu a'u hallforio i bob cwr o'r byd.

Roedd Parc y Strade yn cael ei ystyried bob amser fel cae 'mwyaf Cymreig' Cymru, gyda'r sgorfwrdd Cymraeg a'r caneuon Cymraeg y byddai'r dorf yn eu canu. Daeth 'Sosban Fach' yn adnabyddus drwy'r byd i gyd wedi i'r cefnogwyr ei mabwysiadu a'i chanu oherwydd y 'sosbenni' ar y pyst. Cynhaliwyd cymanfa ganu cyn y gêm yn erbyn y Crysau Duon ym 1972.

Fel cae rygbi a oedd yn galon i'r gymuned, cynhaliwyd nifer o ddigwyddiadau ar wahân i rygbi ym Mharc y Strade, gan gynnwys nifer o chwaraeon eraill, a byddai noson Guto Ffowc a thân gwyllt yn cael ei chynnal yno bob blwyddyn.

Ar 15 Tachwedd 2007, cynhaliwyd angladd Ray Gravell ar gael Parc y Strade. Roedd hwn yn ddigwyddiad unigryw yn hanes Cymru ac fe'i disgrifiwyd yn y wasg fel 'angladd gwladol Cymreig'. Daeth 6000 o bobl i'r stadiwm i alaru, gan gynnwys pobl flaenllaw o'r byd gwleidyddol, y byd diwylliannol a'r byd chwaraeon yng Nghymru ac roedd miloedd eto'n llenwi'r strydoedd y tu allan. Cafodd lluniau o'r arch ar y cae, a Cheidwad y Cledd wrth ei hochr, ynghyd â'r holl bobl a fu'n talu teyrnged iddo, eu darlledu'n fyw ar S4C.

Heb amheuaeth, mae arwyddocâd hanesyddol a diwylliannol pwysig i Barc y Strade o safbwynt Cymru. Gwelwyd sawl brwydr ar y cae, ac roedd yn symbol penodol o angerdd y Cymry dros rygbi yn yr ugeinfed ganrif. Llwyddwyd i gasglu dros 3500 o lofnodion ac mae'r ffaith bod hon yn ddeiseb sy'n ymwneud â threftadaeth yn hytrach na rygbi yn ychwanegu at arwyddocâd hynny. Casglwyd y ddeiseb ar gownteri siopau drwy sir Gaerfyrddin a, heb fawr ddim cyhoeddusrwydd, cafwyd cefnogaeth gref gan fod pobl yn credu y dylid achub cae Parc y Strade i nodi'i leoliad a'i dreftadaeth.

Er mai teitl y ddeiseb yw 'Rhestru Parc y Strade', a byddai llawer yn hoffi gweld y stadiwm gyfan yn cael ei hachub, derbynnir yn gyffredinol y byddai rhestru Parc y Strade yn golygu rhestru'r cae a'i gadw fel man agored fel rhan o unrhyw ddatblygiad. Mae'r cae hwn, lle gwelwyd sawl brwydr yn yr oes fodern, mor unigryw oherwydd y cyfan sydd wedi digwydd arno; buddugoliaethau'r tîm rygbi wrth gwrs ac 'angladd gwladol' bythgofiadwy Ray Gravell, ond hefyd yr atgofion am yr holl gefnogwyr a fyddai'n heidio ar y cae yn ystod hanner amser ac ar ôl y chwiban olaf i chwarae yn yr union fan lle'r oedd eu harwyr newydd fod yn sefyll.

I restru cae chwarae, mae'n debyg y bydd angen creu categori rhestru newydd neu newid un o'r categorïau presennol. Wrth i bwysigrwydd y diwydiant ymwelwyr gynyddu o hyd yng Nghymru, mae angen diogelu lleoliadau sy'n bwysig i dreftadaeth fodern Cymru, fel Parc y Strade, felly mae

angen i'r Cynulliad Cenedlaethol roi cyfarwyddyd i Cadw i greu neu i newid categori rhestru ar gyfer meysydd chwarae.

Cyn gynted ag y caiff safle fel Parc y Strade ei golli fel rhan o gynllun datblygu, mae'n mynd yn gwbl ddiwerth. Hwyrach y bydd ambell ymwelydd yn cael ei ddenu i ddarllen panel gwybodaeth neu blac glas ger y safle, ond go brin y byddai hynny o unrhyw fudd i'r economi leol. Mae angen gwarchod lleoedd fel Parc y Strade i ganiatáu iddynt gael eu marchnata fel safleoedd treftadaeth Cymru fodern ar gyfer yr unfed ganrif ar hugain. Mae ymwelwyr am fedru troedio'r cae, nid dim ond darllen amdano.

Yn ogystal â'r 3500+ o lofnodion, mae grŵp Facebook, sydd â dros 520 o aelodau, nifer o gyrff lleol, gan gynnwys Cyngor Tref Llanelli a Chyngor Gwledig Llanelli, yn cefnogi amcanion y ddeiseb, sef gwarchod cae Parc y Strade. Nid oes gan yr un o'r cyrff hyn, fodd bynnag, y pŵer i wneud hynny.

Cafwyd cefnogaeth ryngwladol i'r ddeiseb, yn ogystal â chefnogaeth o rannau eraill o Gymru a'r DU, gan ddangos yn glir fod pwysigrwydd cenedlaethol ynghlwm wrth Barc y Strade. Yn lleol, mae'r ddeiseb hefyd wedi cael cefnogaeth cyn fawrion timau Llanelli, Cymru a'r Llewod fel Delme Thomas a Phil Bennett.

Mae gwefan yn cefnogi'r ddeiseb i'w gweld os ewch i www.stradeyparkpetition.co.uk. Mae rhagor o wybodaeth ar gael hefyd, o hanes Ystâd Stradey yn rhoi darn o dir o fewn ei waliau terfyn i greu'r cae ym 1879 hyd at gau'r stadiwm ym mis Hydref 2008.

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-263
Ein cyf/Our ref HL/06342/12

William Powell AM
Chair
Petitions Committee
Ty Hywel
Cardiff Bay
Cardiff
CF99 1NA

22 October 2012

Dear William,

Thank you for your letter of 10 October 2012 asking that the Petitions Committee be sent a copy of the report that my officials in Cadw are preparing to scope the options for protecting our sporting heritage in the future.

I will send you a copy of the report which is expected to be complete by 31 December 2012. All the options will be considered as part of the development and implementation of the proposed new heritage legislation and associated policy and guidance.

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.huw.lewis@wales.gsi.gov.uk

P-04-322 Galw am ryddhau gafael Cadw ar eglwysi yng Nghymru

Geiriad y ddeiseb

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i bwyso ar Lywodraeth Cymru i ymchwilio i mewn i ran Cadw yn y broses o roi caniatâd cynllunio i adeiladau rhestredig er mwyn gwneud gwaith addasu i eglwysi. Mae hyn yn rhwystro cynulleidfaoedd gweithgar a hyfyw rhag defnyddio adeiladau rhestredig yng Nghymru a, thrwy hynny, cânt eu cadw mewn cyflwr o inertia pensaernïol: nid ydynt yn gallu elwa ar ddatblygiadau modern mewn deunyddiau adeiladu, ac mae'n anodd i eglwysi wneud y newidiadau sy'n angenrheidiol er mwyn iddynt wasanaethau'r genhedlaeth nesaf a'r gymuned leol.

Cynigwyd gan: Graham John

Nifer y llofnodion: 147

Ystyriwyd am y tro cyntaf: Mehefin 2011

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-322
Ein cyf/Our ref HL/06343/12

William Powell AM
Chair Petition's committee
Ty Hywel
Cardiff Bay
Cardiff
CF99 1NA

22 October 2012

Dear William

Thank you for your letter of 10 October asking whether a historic buildings taskforce working group will be established and whether it will include independent churches.

There are no current plans for a historic buildings taskforce working group. However, I have asked my officials in Cadw to look at the possibility of initiating a task and finish group in the New Year to look at “ecclesiastical exemption” in the context of the review of the heritage protection legislation and a review of the support needed for listed places of worship to ensure their long-term sustainability.

I believe that a task and finish group of this nature could be a useful means of both examining a serious issue and also bringing together the various interest groups to share experiences and examples of good practice.

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.huw.lewis@wales.gsi.gov.uk

P-04-403 Achub Plas Cwrt yn Dre/ Hen Senedd-Dy Dolgellau

Petition wording:

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i roi cyfarwyddyd i Lywodraeth Cymru i brynu Plas Cwrt yn Dre, a elwir hefyd yn Hen Senedd-dy Owain Glyndŵr, Dolgellau, cyn bo'r trysor cenedlaethol hwn yn cael ei werthu ar y farchnad agored a'i golli am byth.

Gwybodaeth ategol: Symudwyd Plas Cwrt yn Dre, a elwir hefyd yn Hen Senedd-dy Owain Glyndŵr, o Ddolgellau i Barc Dolerw, y Drenewydd ym 1886. Bellach ni all y Crynwyr, perchnogion yr adeilad ar hyn o bryd, fforddio i'w gynnal a'i gadw ac mae ar werth ganddynt am £55,000. Mae hwn, heb os, yn drysor cenedlaethol a chredwn y dylai Llywodraeth Cymru ei brynu ar gyfer y genedl .

Petition raised by: Sian Ifan

Date petition first considered by Committee: 2 Gorffennaf 2012

Number of signatures: 218 (Casglwyd 10 llofnod ychwanegol ar ddeiseb gysylltiol)

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-403
Ein cyf/Our ref HL/06391/12

William Powell AM
Chair Petition's committee

6 November 2012

Dear William,

Thank you for your letter of 22 October about the petition asking that the Welsh Government be instructed to purchase Plas Cwrt yn Dre, Newtown.

Buildings are listed in three grades which reflect their relative importance at the national level. Grade II listed buildings represent those that are of special interest which warrant every effort being made to preserve them, grade II* listed buildings are important buildings of more than special interest and grade I listed buildings are exceptional. Grade I and II* listed buildings represent the top 8% of all listed buildings in Wales.

In reconsidering the grading of Plas Cwrt yn Dre my officials in Cadw concluded that there was little evidence to support its traditional association with Owain Glyndwr and relatively little fabric survived from the original late medieval building. However, the history of the building from the perspective of its preservation was considered to be sufficiently interesting to justify an enhanced grading from II to II*.

The claim that the building was the site of a Parliament called by Owain Glyndwr first emerged in the early nineteenth century. That claim was a significant factor in the building's subsequent history, including its preservation in situ, and its subsequent dismantling and imaginative reconstruction in Newtown in 1885. Although relatively little pre-nineteenth century fabric survives, it is clear that the reconstructed building in Newtown was largely based on the historic building in Dolgellau, taking what was then deemed to be its most interesting features as the basis for the reconstruction. It gives us a rare link not only to a timber-framing tradition in Dolgellau, but also to ideas about historical architecture at the end of the nineteenth century. On these grounds it was upgraded to II* to draw attention to this remarkable history, and to ensure that any proposals to alter it are informed by a proper understanding of its interest.

As regards the workshops being held by my officials in Cadw to inform the Heritage Bill, three horizon scanning workshops were held in February and March 2012 to consider the

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

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Correspondence.huw.lewis@wales.gsi.gov.uk

drivers that might shape Wales in the future. A report on the outcome of the workshops has been published and a copy is attached for information.

Four specialist workshops were then held in May and June 2012, covering the built historic environment; archaeology; historic assets from the owner's perspective and historic parks, gardens and landscapes. The workshops focused on the present arrangements and what we want our protection framework to achieve in the future. These workshops were followed by the Treftadaeth conference, held in July 2012 and attended by nearly 150 people. This conference included a series of workshops which looked at the future of our protection framework. A full report on the outcomes of the workshops and conference is in preparation.

Finally, Cadw, in partnership with CyMAL and the Wales Council for Voluntary Action, is currently holding three road-shows/drop-in events across Wales to engage further with Third Sector organisations and local communities, seeking their views about the future of the historic environment in Wales and our framework for protection.

I hope that my reply is of help.

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Cadw

Llywodraeth Cymru
Welsh Government

www.cymru.gov.uk

Tuag at Fil Treftadaeth

Adroddiad ar y Gweithdai Gwylio'r Gorwel a gynhaliwyd yng Nghaerdydd, Aberystwyth a Chyffordd Llandudno Chwefror/Mawrth 2012

Cadw, Mai 2012

Y Cefndir a'r Ymagwedd

Yn ystod Chwefror a Mawrth 2012, cynhaliodd Cadw dri gweithdy i randdeiliaid, gan fwriadu clywed amrywiaeth eang o safbwyntiau ar amgylchedd hanesyddol Cymru a'r ffactorau sy'n debyg o effeithio arno yn y dyfodol. Daeth 90 o unigolion â diddordeb proffesiynol neu bersonol yn sector yr amgylched hanesyddol i'r gweithdai (ceir rhestr o aelodau'r gweithdai yn atodiad 1).

Y gweithdai oedd y cyfnod cyntaf mewn ymarfer cwmpasu a fyddai'n bwydo'r polisïau a'r strategaethau at y dyfodol, gan gynnwys yr hyn fydd yn cael ei gynnwys yn y Bil Treftadaeth arfaethedig sydd i'w gyflwyno yn 2014–15.

Roedd y cyfnod cyntaf yn golygu gwylio'r gorwel, sef y broses o gasglu syniadau newydd a nodi tueddiadau a datblygiadau newydd sy'n dechrau dod i'r amlwg ac a fydd yn effeithio ar y dyfodol. Nid darogan yr hyn fydd yn digwydd ymhen ugain mlynedd, deg ar hugain neu ddeugain oedd y bwriad, ond dangos llun o sut y gallai'r byd edrych o bosibl. Mae hynny'n ein herio i feddwl am yr hyn y byddai hynny'n ei olygu, a ddylai hynny gael ei groesawu, a sut y gallai'r canlyniadau gael eu hosgoi. Y gobaith oedd y byddai gwylio'r gorwel ar ddechrau'r ymarfer cwmpasu yn ennyn ac yn hybu trafodaeth ddilynol ar y polisi ar amgylchedd hanesyddol Cymru yn y dyfodol.

Bydd allbwn y gwaith gwylio'r gorwel yn bwydo cyfnod nesaf y gweithgareddau, sef cyfres o weithdai i sectorau penodol a fydd yn cael eu cynnal ar y cyd â'r mudiadau partner, a hynny er mwyn cynnal trafodaethau pendant ar gryfderau a gwendidau'r system gyfredol ar gyfer diogelu treftadaeth.

Mae'r adroddiad hwn yn esbonio'r ymagwedd sydd wedi'i defnyddio, gan grynhoi'r trafod a gafwyd yn y tri gweithdy.

Y themâu allweddol a gododd o drafod rôl yr Amgylchedd Hanesyddol

Yn sesiwn cyntaf pob gweithdy cafwyd sesiwn trafod wedi'i lywio, lle'r oedd yr aelodau'n enwi'r nifer fawr o rolau gwahanol sy'n cael eu chwarae gan yr Amgylchedd Hanesyddol. Cododd sawl thema wahanol yn y trafodaethau gan ddangos yr amryfal ffyrdd y mae'r Amgylchedd Hanesyddol yn gweithio, gan greu effeithiau gwahanol drwy ddulliau **ymarferol, seicolegol, economaidd, addysgol ac amgylcheddol**.

Llwyddodd y trafodaethau hyn nid yn unig i danlinellu'r rhyng-ddibyniaeth rhwng gwaith Cadw a gwaith sefydliadau treftadaeth eraill ond hefyd yr angen i edrych y tu hwnt i'r sector treftadaeth a chymryd i ystyriaeth ddatblygiadau mewn meysydd eraill, er enghraifft addysg, yr economi, iechyd, yr amgylchedd a llawer o rai eraill, er mwyn sicrhau bod yr amgylchedd hanesyddol yn cael ei gymryd i ystyriaeth yn llawn. Awgrymwyd bod angen i sector yr amgylchedd hanesyddol fod yn fwy blaenweithgar i hyrwyddo ei werth a'i botensial.

Mae Cadw mewn sefyllfa dda i feithrin rôl flaenweithgar i sicrhau bod gwneuthurwyr polisïau mewn meysydd eraill yn Llywodraeth Cymru'n cael gwybod am yr amgylchedd hanesyddol. Er enghraifft, mae'r dull yma wedi dechrau eisoes drwy gynnal trafodaethau gydag adran gynllunio Llywodraeth Cymru. Bydd meysydd eraill yn dilyn wrth i'r polisïau gael eu datblygu.

Tynnodd y trafodaethau sylw hefyd at y ffaith bod yr amgylchedd hanesyddol yn chwarae amryw o rolau sydd yn aml yn cyferbynnu â'i gilydd — o rôl economaidd bur i'r 'ymdeimlad o le' llawer llai pendant, ac roedd hyn yn thema gyson ar draws y tri gweithdy. Cafwyd dehongliadau eang hefyd o ran beth yw'r amgylchedd hanesyddol. Er ein bod yn fwriadol wedi cadw'r termau yn gyffredinol yng nghyd-destun y trafodaethau er mwyn ennyn trafod eang, efallai fod angen bod yn fwy pendant a phenodol am ystyr yr amgylchedd hanesyddol, gan y bydd hynny'n helpu dealltwriaeth y cyhoedd ehangach a hefyd yn egluro rôl Cadw.

Yn olaf, llwyddodd y trafodaethau hefyd i atgyfnerthu gwerth ymagwedd gynhwysol at ddiwygiadau, gan gynnwys ystod eang o grwpiau buddiannau er mwyn deall y materion sy'n wynebu'r amgylchedd hanesyddol.

Roedd y disgrifiadau manylach o'r rolau a nodwyd yn ystod y gweithdai yn cynnwys:

Rôl gymdeithasol a seicolegol

Cysylltu pobl, lle a'r gorffennol

- Cysylltu pobl â lleoedd, ymdeimlad o hunaniaeth a balchder, hanfod lle, ymdeimlad o le, helpu unigolion i ddeall sut maen nhw wedi'u cysylltu â'u lle, creu ymdeimlad o le
- Cysylltu pobl Cymru â'r gorffennol
- Adeiladu cof cyfun sy'n gysylltiedig â lle
- Bod yn gefnlen i'r gorffennol a sefydlu ble rydyn ni, rhoi rhywbeth i lynu wrtho mewn byd sy'n newid yn gyflym, rhoi angor

Cymuned, hanes cymdeithasol, hunaniaeth leol

- Diffinio cymeriad ardal neu gymuned
- Rhoi ffocws i'r gymuned, ysgogi gweithredu dinesig (e.e. cymuned yn dod at ei gilydd ynglŷn â chau ysgol)
- Rhoi ymdeimlad o hunaniaeth a balchder
- Cyfleu hanes cymdeithasol
- Rhoi glud sy'n dal cymunedau at ei gilydd

Hunaniaeth genedlaethol, statws

- Bod yn sylfaen ar gyfer hunaniaeth Cymru — hefyd storïau
- Meithrin ymdeimlad o ddinasyddiaeth
- Rhoi statws i Gymru yn y byd
- Rhoi cyfle i wella'n henw da yn y modd rydyn ni'n gwerthfawrogi'n treftadaeth

Eraill

- O gymorth ac o les i iechyd — corfforol a meddyliol
- Dangos gwareiddiad

Rôl economaidd

Potensial twristiaeth

- Yn cynnig potensial ar gyfer twristiaeth
- Dangos arbenigrwydd Cymru o ran adeiladau a thirluniau a rhoi hunaniaeth inni, i'w gwerthu i'r byd

Adfywio a swyddi

- Ategu a chynnig ffocws ar gyfer adfywio
- Creu swyddi, yn uniongyrchol gysylltiedig â chadwraeth ac mewn twristiaeth.

Rôl mewn addysg a datblygu sgiliau

Gwersi o'r gorffennol, cyd-destun ar gyfer heddiw

- Rhoi gwersi o'r gorffennol y gallwn ddysgu oddi wrthyn nhw, e.e. effeithiau newid yn yr hinsawdd.
- Rhoi cofnod o'r hyn sydd wedi digwydd, cysylltiad ffisegol â'r gorffennol; tystiolaeth bendant a gwirioneddol o'r hyn sydd wedi digwydd
- Ffynhonnell gwybodaeth am y gorffennol — cof y genedl
- Tystiolaeth o waith pobl a diwydiant yn gosod ble mae pobl yn byw yn ei gyd-destun

Bwydo'r dyfodol, tanio'r dychymyg

- Gall edrych ar y gorffennol fwydo'r dyfodol
- Symbylu addysg a dysgu
- Annog trafodaeth, codi cwestiynau — e.e. pam mae Ynys y Barri yno? Pam mae'r tai teras hyn yn y cwm hwn?
- Gall sefyll lle digwyddodd pethau danio'r dychymyg

Meithrin sgiliau traddodiadol, ymarferol

- Rhoi cyfle i feithrin sgiliau traddodiadol, ymarferol
- Addysgu ac ysgogi'r angen am sgiliau, e.e. sgiliau cadwraeth traddodiadol

Rôl ymarferol

- Rhoi cyd-destun, man cychwyn i benseiri adeiladu arno
- Rhoi dilysrwydd mewn byd rhithwir
- Darparu cartrefi, busnes (mae un rhan o dair o dai Cymru'n hŷn na 1919)
- Creu amgylchedd deniadol i fyw a gweithio ynddo; apêl esthetig

Rôl amgylcheddol

Gall yr hen fod yn well na'r newydd

- Gall rhai adeiladau hanesyddol berfformio'n well o ran yr amgylchedd na rhai modern
- Mae adeiladau hanesyddol yn cynnig stoc aruthrol o ddeunyddiau a all fod yn fuddiol eto yn y dyfodol
- Mae'r amgylchedd hanesyddol yn aml yn dod o economi carbon-isel, ac felly mae'n gweithio o fewn cyfyngiadau economi carbon-isel

Ffynhonnell gwybodaeth am y gorffennol

- Rhoi gwybodaeth a all fwydo gweithredoedd a phenderfyniadau yn y dyfodol.

Y tueddiadau allweddol a fydd yn effeithio ar yr amgylchedd hanesyddol yn y dyfodol

Yn yr ail sesiwn ym mhob gweithdy cafwyd dadansoddiad STEEP, a oedd yn caniatáu i'r aelodau feddwl am faterion ehangach a allai gael effaith yn y dyfodol, a hynny drwy ystyried newidiadau yn y meysydd a ganlyn:

- Cymdeithasol
- Technolegol
- Economaidd
- Amgylcheddol
- Gwleidyddol

Gan weithio mewn grwpiau, gwahoddwyd yr aelodau i enwi tueddiadau a datblygiadau yn y byd ehangach a allai effeithio ar yr amgylchedd hanesyddol yng Nghymru. Daeth y themâu allweddol a ganlyn i'r amlwg:

- Newid yn yr hinsawdd a chynhesu byd-eang — effaith uniongyrchol ar asedau hanesyddol yn sgil newid yn yr hinsawdd a chynnydd yn lefelau'r môr ac effaith gwaith lliniaru i leihau effaith newid yn yr hinsawdd e.e. ffermydd gwynt; harneisio ynni'r llanw)
- Dirywiad adnoddau — yn enwedig prinderau byd-eang yn y dyfodol (e.e. dŵr, bwyd, tanwyddau ffosil etc).
- Datblygu economaidd (twf neu ddirywiad)
- Effaith gymharol newid technolegol ar y tirlun ac asedau treftadaeth
- Effaith gymharol newid technolegol ar bobl
- Newid yn natur strwythur yr economi
- Dylanwad y tymor byr a'r tymor hir a hynny mewn penderfyniadau economaidd a gwleidyddol
- Gwerth tybiedig y dreftadaeth — dan arweiniad arbenigwyr traddodiadol ynteu ar sail leol/gymunedol
- Cyflymder a graddfa datganoli gwleidyddol
- Effaith globaleiddio — gan gynnwys y newid yn yr amgylchedd geo-wleidyddol a chynnydd pwerau byd-eang newydd
- Newid yn natur y gymdeithas — p'un a yw'n mynd yn fwy ynteu'n llai tameidiog
- Newid yn y boblogaeth — poblogaeth sy'n heneiddio a naill ai diboblogi neu gynnydd oherwydd mewnfudo
- Y dechnoleg ymchwil a fydd ar gael, ymwybyddiaeth ohoni a sut y caiff ei defnyddio
- Yr angen cynyddol i ddatblygu ffynonellau ynni amgen
- Pwysigrwydd gwerth yr amgylchedd hanesyddol ar gyfer agenda cynaliadwyedd
- Y gagendor economaidd cynyddol rhwng y cyfoethog a'r tlawd
- Lefel ysbryd a chydlynedd cymunedol.
- Ai yn lleol ynteu yn y canol y mae'r cyfrifoldeb dros benderfyniadau ar adnoddau cyhoeddus yn gorwedd
- Rôl cymdeithasau dinesig eu gogwydd

- Graddfa datganoli pwerau yn y dyfodol ac a fydd hynny'n effeithio ar gydlynedd y Deyrnas Unedig
- Newid ym mhatrymau gweithio e.e. mwy o weithio o hirbell
- Newidiadau demograffig e.e. poblogaeth sy'n heneiddio, ymfudo
- Economi dylunio/gweithgynhyrchu/gwasanaethu — cydbwysedd ynteu diffyg cydbwysedd
- Pwysigrwydd ffactorau aneconomaidd e.e. lles
- Adnoddau — beth sydd ar gael, eu heffaith e.e. ar gludiant
- Effaith Tsiena a Brasil, India, Rwsia e.e. twristiaeth, adnoddau
- Datganoli, hunaniaeth y Cymry
- Cymuned (lleoliaeth)
- Y cwricwlwm addysgol

Datblygu Senarios

I benderfynu ar sail y senarios, gofynnwyd i aelodau pob gweithdy bleidleisio dros y themâu yr oedden nhw'n credu:

- y bydden nhw'n cael yr effaith fwyaf ar amgylchedd hanesyddol Cymru; ac
- y bydden nhw'n fwyaf ansicr.

Cafwyd trafodaeth ymysg pawb, gan amlinellu'r senarios a ddetholwyd gan fynegi'r rheiny yn nhermau pedwar cwadrant: ar echelau o un eithaf i'r llall, gan ddibynnu ai effaith gadarnhaol ynteu effaith negyddol a gâi'r rheiny yn y dyfodol:

Gweithdy 1 — Caerdydd

Barn draddodiadol am dreftadaeth	Barn draddodiadol am dreftadaeth
Effaith negyddol technoleg newydd	Effaith gadarnhaol technoleg newydd
Barn gymunedol am dreftadaeth	Barn gymunedol am dreftadaeth
Effaith negyddol technoleg newydd	Effaith gadarnhaol technoleg newydd

Gweithdy 2 — Aberystwyth

Technoleg gadarnhaol	Technoleg gadarnhaol
Economi negyddol	Economi cadarnhaol
Technoleg negyddol	Technoleg negyddol
Economi negyddol	Economi cadarnhaol

Gweithdy 3 — Cyffordd Llandudno

Economi negyddol	Economi cadarnhaol
Newid hinsawdd cadarnhaol	Newid hinsawdd negyddol
Economi negyddol	Economi cadarnhaol
Newid hinsawdd negyddol	Newid hinsawdd cadarnhaol

Materion i fyfyrio arnyn nhw a'r goblygiadau ar gyfer datblygu polisïau

Yn y sesiwn terfynol, cafodd sawl mater ei nodi mewn trafodaeth ymysg pawb:

Ymgysylltu

- Drwy'r balchder lleol y maen nhw'n ei ysbrydoli, gall asedau treftadaeth fod yn gyfrwng cadarnhaol i greu cysylltiadau â chymunedau lleol a chaniatáu adfywio. Mae angen rhoi grym i gymunedau lleol i wneud penderfyniadau am yr hyn sy'n bwysig iddyn nhw
- Mae'n bosibl na fydd rhai adeiladau sydd o werth mawr ym marn eu cymunedau lleol yn cael eu gwerthfawrogi ar lefel genedlaethol gan y 'sefydliad treftadaeth'. Oes lle i system ar lefel y gymuned leol a fyddai'n rhedeg yn gyfochrog â'r system ddynodi, gan seilio'r penderfyniadau ar feini prawf gwahanol?
- Oes angen cynnwys cymunedau lleol yn fwy yn yr angen i ddiogelu eu treftadaeth nhw eu hunain?
- Yr angen i gynnwys demograffeg ehangach yn y drafodaeth ar yr amgylchedd hanesyddol. Gall fod gan bobl ifanc safbwynt gwahanol ar yr hyn sy'n bwysig, a bydd ganddyn nhw agwedd wahanol at welliannau technolegol.

Effaith Technoleg

- Bydd y galw am fwy o brofiadau 'efelychu' yn effeithio ar ddilysrwydd.
- Mae 'atyniadau mawr' a all gynnig profiad soffistigedig yn debyg o gadw eu hapêl ond gallai ffactorau fel mynediad rhithwir ac anawsterau cludiant olygu y bydd yn anodd i'r asedau treftadaeth lleiaf ddenu ymwelwyr ac incwm.
- Mae newid technolegol (e.e. rhwydweithio cymdeithasol) yn hwyluso mwy o ddemocrateiddio ar benderfyniadau — cyfle i fynd ati o'r gwaelod tuag i fyny.
- Mae datblygu cymwysiadau rhithwir yn creu goblygiadau arwyddocaol ar gyfer asedau treftadaeth ond ochr yn ochr â hyn ceir galw o hyd am y profiad byw. Sut mae sicrhau bod y profiad rhithwir yn cydategu'r profiad go iawn, yn hytrach na chystadlu yn ei erbyn?
- Yr angen i gofleidio technoleg newydd sy'n cynnig cyfle i ymgysylltu'n well a meithrin gwybodaeth o'r amgylchedd hanesyddol e.e. cymwysiadau ffôn symudol a all addysgu plant am hanes a'u cynnwys nhw mewn ffyrdd sy'n berthnasol iddyn nhw.
- Gallai agor unigolion i'r byd ehangach drwy sianeli cyfathrebu digidol a'u hynysu'n fwy o'r cymunedau o'u hamgylch amharu ar iaith a diwylliant arbennig Cymru.
- Yr angen i sicrhau bod gennyn ni'r gallu i gadw archifau a chofnodion — gan y bydd yr amgylchedd rhithwir un diwrnod yn rhan o ffabrig yr amgylchedd hanesyddol. Mae angen inni ystyried cadwraeth ddigidol e.e. symud cofnodion oddi ar dapiau i ffurf ddigidol.

Materion Economaidd

- Mae angen rhoi ystyriaeth i fwy o ffyrdd o wireddu potensial ein hasedau treftadaeth i'r eithaf o ran eu cyfraniad i'r economi. Mae angen meddwl ymhellach

am yr hyn y mae ar y sector preifat ei angen er mwyn gweld yr amgylchedd hanesyddol fel ased economaidd.
- Y cyfleoedd am ddatblygu economaidd a gynigir gan ein hasedau treftadaeth a'r angen i ystyried rôl y sector preifat wrth wireddu eu potensial i'r eithaf.
- Mae gan yr amgylchedd hanesyddol werth ond mae'n anos pennu beth yw'r gwerth hwnnw am ei fod yn aml yn amhendant.
- Rhaid inni beidio â mynd ati i droi'r amgylchedd hanesyddol yn ormod o gynwydd, gan ei gyflwyno fel un pecyn.
- Mae yna risg i'r amgylchedd hanesyddol os arhoswn ni am y 'dyddiau da' cyn buddsoddi. Gall adfywio'r dreftadaeth greu twf ac mae angen inni wrthsefyll y storm tra bydd yr economi'n wael a diogelu pethau at y dyfodol.
- Sut mae perswadio'r gwleidyddion neu fuddsoddwyr fod yr amgylchedd hanesyddol yn werthfawr?
- Mae angen ymdrin â heriau a chyfyngiadau twf economaidd.
- Mae angen cydnabod gwarcheidwaeth ar ffurf perchnogaeth breifat mewn ffordd glir a dod o hyd i ffyrdd i leihau'r baich.

Materion Diwylliannol
- A ddylai'r pwyslais ar rwymedigaeth statudol fod yn ehangach na rhestru/dynodi, ond bod yn rhwymedigaeth hefyd i fuddsoddi/hybu diwylliant/gwybodaeth?
- Gallai cyfoeth y cyfryngau sydd ar gael a ffactorau eraill hybu hyd yn oed mwy o ffocws ar yr 20fed ganrif a hanes diweddar a dirywiad yn y diddordeb mewn asedau treftadaeth hŷn ac yn y parch tuag atyn nhw.
- Angen manteisio ar y ffaith mai'r amgylchedd hanesyddol sy'n gwneud Cymru'n arbennig a dylai hyn gael ei gymryd i ystyriaeth pan fydd penderfyniadau cael eu gwneud.
- Mae'n bwysig bod gennyn ni nod gan barhau â'n gweledigaeth a chyfleu'n gwerthoedd ni fel cymdeithas.
- Mae arnon ni angen uchelgais o ran yr hyn y mae pobl yn ei wneud a'r mannau rydyn ni'n byw ynddyn nhw — mae arnon ni angen set o werthoedd a chamau dyheadol ar gyfer sector yr amgylchedd hanesyddol.
- Dylai'r Bil Treftadaeth gynnwys datganiad ffurfiol o'r hyn sy'n bwysig.

Materion amgylcheddol
- Yr angen i gynyddu gwybodaeth a chywiro gwybodaeth anghywir ynghylch perfformiad adeiladau hanesyddol o'u cymharu ag adeiladau newydd o ran ffactorau ecolegol ac amgylcheddol.
- Cydnabu pob senario a ddatblygwyd bod yr amgylchedd hanesyddol yn atal datblygu
- Mae yna berygl bod treftadaeth yn cael ei haberthu er mwyn lleddfu ar newid yn yr hinsawdd.
- Mae i newid yn yr effaith ddwy effaith — mae gwaith lleddfu'n effeithio ar yr amgylchedd hanesyddol (tyrbinau gwynt etc) a cheir effaith uniongyrchol e.e. llifogydd, cynnydd yn lefel y môr, digwyddiadau eithriadol, effeithiau ar yr amgylchedd.
- Hyd yn oed â'r ddeddfwriaeth a'r polisïau presennol, rydyn ni'n dal yn gwneud pethau anghywir e.e. ffenestri UPVC. Mae arnon ni angen gwell cydbwysedd rhwng aberthu a goroesi.
- Gall pobl roi cefnogaeth artiffisial i'r amgylchedd hanesyddol er mwyn lleddfu mesurau eraill e.e. tyrbinau.
- Os derbyniwn fod angen lleddfu newid yn yr amgylchedd, mae angen inni sicrhau bod hynny'n digwydd lle y caiff yr effaith leiaf ar yr amgylchedd hanesyddol.
- Fe allai dinasyddion amddiffyn yr amgylchedd hanesyddol pan fydd y llywodraeth yn penderfynu nad yw rhai agweddau'n haeddu cael eu harbed.
- Fe allai cymunedau gael eu pegynnu'n fwy yn y dyfodol — gallai tyrbinau gwynt ar eu tir fod o les economaidd i ffermwyr ond gallai mewnfudwyr gredu eu bod yn difetha delfryd cefn gwlad.
- Angen prif-ffrydio'r amgylchedd hanesyddol a'i gysylltu â gwaith sy'n cael ei wneud yn yr amgylchedd naturiol.
- Mae treftadaeth ddiwydiannol yn dda i economi carbon-isel.

Gwneud Penderfyniadau
- Mae'r amgylchedd hanesyddol yn amrywio ac mae'n cynnwys ystod eang o wahanol fathau o asedau treftadaeth. Rôl pwy yw penderfynu ar yr hyn y mae'n bwysig ei gadw? Swyddogaeth cyrff lleol ynteu cyrff cenedlaethol yw hyn?
- Mae angen i Cadw a chyrff arbenigol eraill ymgysylltu â chymunedau lleol a'u grymuso i arwain y ffordd wrth ddiogelu eu treftadaeth eu hunain, drwy godi ymwybyddiaeth a rhannu gwybodaeth/canllawiau.
- Gallai penderfyniadau'r llywodraeth ddod o dan fwy o bwysau o blaid dull mwy poblogaidd o fynd ati a gallai'r llywodraeth gael ei llethu gan alwadau e.e. e-ddeisebau o blaid rhestru adeiladau penodol a gwybodaeth.
- Mae angen i newidiadau mewn deddfwriaeth a pholisïau adlewyrchu'r newid sy'n dod i'r amlwg oddi wrth broses o benderfynu ar gadwraeth ar sail 'defnyddiau/ffabrig' tuag at broses benderfynu sydd wedi'i seilio ar 'werthoedd' — sef un sy'n cymryd i ystyriaeth werthoedd cymdeithasol, cymunedol ac economaidd.
- Angen llais mwy cadarnhaol i Cadw a'r Awdurdodau Lleol — sydd yn aml yn cael eu gweld fel rheolwyr. Gallai corff interim gynnig yr opsiwn hwn.
- A ddylai penderfyniadau gael eu rhoi yn nwylo 'arbenigwyr treftadaeth'/pobl leol/cymunedau? Fe ellid cael pwysau cynyddol ar yr amgylchedd rheoleiddio cyfredol — gan honni ei fod yn amherthnasol ac yn bell o'r bobl.
- Gallai'r pwyslais cynyddol ar ymgysylltu cymunedol arwain at sefyllfa lle 'mae popeth yn bwysig'. Mae hyn yn awgrymu bod angen gosod rhwymedigaeth ar yr 'awdurdodau' neu'r 'gweithwyr treftadaeth proffesiynol' i sicrhau bod penderfyniadau'n dryloyw ac yn cael eu seilio ar egwyddorion sydd wedi'u derbyn.
- Byddai adnabod 'partneriaid yr ymddiriedir ynddyn nhw' ac sy'n gofalu am eiddo yn caniatáu i'r awdurdodau lleol a Cadw ganolbwyntio'u hadnoddau lle mae eu hangen.

P-04-420 : Adeiladu Cofeb i Owain Glyndŵr

Geiriad y ddeiseb

Rydym yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i adeiladu Cofeb i Owain Glyndŵr , ar raddfa a rhwysg Cofeb William Wallace yn Stirling, yr Alban. Mae amryw o leoliadau a fyddai'n addas gan gynnwys Corwen a Machynlleth, i enwi dim ond dau. Os gall Llywodraeth Cymru, yn ôl y sôn, fod yn cynllunio i ailaddurno cyntedd bloc swyddfeydd Aelodau'r Cynulliad sy'n costio 200k , yna credwn y gall Llywodraeth Cymru fuddsoddi swm o arian hyd yn oed yn fwy mewn adeiladu Cofeb i Owain Glyndŵr, sef Tywysog Brodorol Olaf Cymru . Ar ôl ei gwblhau, byddai'n rhoi lleoliad y Gofeb ar y map gan ddod â chyllid, y mae cymaint o'i angen, i mewn o dwristiaeth gan roi hwb pellach i ddelwedd Cymru. Felly byddai pawb yn elwa.

Prif ddeisebydd: Russell Gwilym Morris

Ysytyriwyd am y tro cyntaf gan y Pwyllgor: 2 Hydref 2012

Nifer y llofnodion: 74

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Llywodraeth Cymru
Welsh Government

Eich cyf/Your ref P-04-420
Ein cyf/Our ref HL/06339/12

William Powell AM
Chair Petition's Committee
Ty Hywel
Cardiff Bay
Cardiff
CF99 1NA

22 October 2012

Dear William

Thank you for your letter of 10 October regarding a petition being considered by the Committee about the creation of a statue in Wales to honour Owain Glyndŵr.

Whilst I recognise the important of Owain Glyndŵr in Wales' history, the Welsh Government does not normally fund the creation of new memorials or other commemorations. I understand that the National Wallace Monument in Scotland was funded at the time through a public campaign and private donors. There are a number of existing memorials to Owain Glyndwr in Wales such as those in Machynlleth and Corwen. Whilst not of the scale of the National Wallace Monument, they serve as focal points for the commemoration of Owain Glyndŵr.

In March 2011 Cadw completed a programme of capital works to three of the most important sites associated with Owain Glyndŵr: Sycharth Castle, Glyndyfrdwy and Machynlleth Parliament House. Over £800,000 was spent on essential conservation works and improving public access and information at these three sites. This project was developed in response to concerns that monuments were at risk and this intervention has ensured the preservation of some key historic sites.

I cannot comment on the remarks regarding reported refurbishment costs. This is a matter for the Assembly Commission.

Huw Lewis AC / AM
Y Gweinidog Tai, Adfywio a Threftadaeth
Minister for Housing, Regeneration and Heritage

Bae Caerdydd • Cardiff Bay
Caerdydd • Cardiff
CF99 1NA

English Enquiry Line 0845 010 3300
Llinell Ymholiadau Cymraeg 0845 010 4400
Correspondence.huw.lewis@wales.gsi.gov.uk

P-03-301 Cydraddoldeb i'r gymuned drawsryweddol

Geiriad y ddeiseb

> Rydym ni, sydd wedi llofnodi isod, yn galw ar Gynulliad Cenedlaethol Cymru i annog Llywodraeth Cymru i sicrhau y rhoddir yr un gefnogaeth a chymorth uniongyrchol i'r gymuned drawsrywiol ag a roddir i gymunedau tebyg, fel y grwpiau cymorth ar gyfeiriadedd rhywiol, i hyrwyddo cydraddoldeb ar gyfer y gymuned drawsrywiol ac ymwybyddiaeth ohoni.

Linc i'r ddeiseb:
http://www.senedd.cynulliadcymru.org/mgIssueHistoryHome.aspx?IId=898

Cynigwyd gan: Transgender Cymru

Nifer y llofnodion: 113

Ystyriwyd gan y Pwyllgor ar: 28 Medi 2010, 11 Ionawr, 1 Mawrth, 29 Mawrth, 21 Mehefin, 12 Gorffenaf 2011.

Y wybodaeth ddiweddaraf: Cafwyd gohebiaeth gan y Pwyllgor Iechyd a Gwasanaethau Cymdeiathasol, y Gweinidog Iechyd a Gwasanaethau Cymdeithasol a'r Cymdeithas Feddygol Prydain (Cymru) .