The Planning Inspectorate
Yr Arolygiaeth Gynllunio

Adroddiad

Ymchwiliad a agorwyd ar 15/10/13
Ymweliadau safle a wnaed ar 24/10/13 & 8/11/13

gan Emyr Jones BSc(Hons) CEng MICE MCMI

Arolygydd a benodir gan Weinidogion Cymru

Dyddiad: 16/01/2014

Report

Inquiry opened on 15/10/13
Site visits made on 24/10/13 & 8/11/13

by Emyr Jones BSc(Hons) CEng MICE MCMI

an Inspector appointed by the Welsh Ministers

Date: 16/01/2014

TOWN AND COUNTRY PLANNING ACT 1990

SECTIONS 78 & 79

APPEAL BY RES UK & IRELAND LTD.

LAND SURROUNDING BRYN LLYWELYN, LLANLLWNI, PENCADER SA39 9ED

COMMONS ACT 2006

SECTIONS 16 & 38

APPLICATIONS BY THE CROWN ESTATE AND RES UK & IRELAND LTD.

LAND AT MYNYDD LLANLLWNI AND MYNYDD LLANFIHANGEL RHOS-Y-CORN COMMONS

Cyf ffeiliau/File refs: APP/M6825/A/12/2189697, APP/M6825/X/13/515763 & APP/M6825/X/13/515764

Contents

Abbreviations

Abnormal Indivisible Load	AIL
Agriculture and Rural Affairs Department	ARAD
Amplitude Modulation	AM
British Horse Society	BHS
British Trust for Ornithology	BTO
Carmarthenshire County Council	CCC
Countryside Council for Wales (now Natural Resources Wales)	CCW
Ecological Clerk of Works	ECoW
Environmental Impact Assessment	EIA
English Heritage	EH
Environmental Statement	ES
Guidelines for Landscape and Visual Impact Assessment	GLVIA
Habitat Management Plan	HMP
Local Biodiversity Action Plan	LBAP
Local Development Plan	LDP
Local Planning Authority	LPA
Livestock Unit	LU
Ministry of Defence	MoD
Natural Resources Wales	NRW
Planning Policy Wales	PPW
RES UK & Ireland Ltd.	RES
Royal Society for the Protection of Birds	RSPB
Special Area of Conservation	SAC
Scheduled Ancient Monument	SAM
Supplementary Environmental Information	SEI
Single Farm Payment	SFP
Site of Importance for Nature Conservation	SINC
Special Landscape Area	SLA

Save Mynydd Llanllwni Group	SMLlG
Scottish Natural Heritage	SNH
Statement of Common Ground	SoCG
Special Protection Area	SPA
Supplementary Planning Guidance	SPG
Strategic Search Area	SSA
Site of Special Scientific Interest	SSSI
Technical Advice Note 8: Planning for Renewable Energy	TAN 8
Zone of Theoretical Visibility	ZTV
Unitary Development Plan	UDP
Welsh Government	WG
Western Power Distribution	WPD

File Ref: APP/M6825/A/12/2189697

Site address: Land surrounding Bryn Llewellyn, Llanllwni, Pencader SA39 9ED

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is made by RES UK & Ireland Ltd. against the decision of Carmarthenshire County Council.
- The application Ref E/23947, dated 29 November 2010, was refused by notice dated 18 December 2012.
- The development proposed is 21 wind turbines (3 bladed horizontal axis) to a maximum blade tip height of 127 metres with associated electricity transformers, underground cabling, access tracks, road widening works, crane hardstandings, control buildings, substation compound, communications mast and anemometry mast for a period of twenty five years; temporary works including construction compound, laydown area, rotor assembly pads, turning heads, welfare facilities and 8 guyed anemometry masts.

Summary of Recommendation: The appeal be dismissed.

File Ref: APP/M6825/X/13/515763

Site address: Land at Mynydd Llanllwni and Mynydd Llanfihangel Rhos-y-Corn Commons

- The application was made to the Welsh Ministers under section 16 of the Commons Act 2006 on 31 January 2013.
- The application is made by the Crown Estate.
- The application is for the deregistration and exchange of land at Mynydd Llanllwni and Mynydd Llanfihangel Rhos-y-Corn Commons.

Summary of Recommendation: The application be refused.

File Ref: APP/M6825/X/13/515764

Site address: Land at Mynydd Llanllwni and Mynydd Llanfihangel Rhos-y-Corn Commons

- The application was made to the Welsh Ministers under section 38 of the Commons Act 2006 on 31 January 2013.
- The application is made by RES UK & Ireland Ltd.
- The application seeks consent to carry out works on Mynydd Llanllwni and Mynydd Llanfihangel Rhos-y-Corn Commons.

Summary of Recommendation: The application be refused.

Preamble

1. This report includes descriptions of the site and surrounding area, the proposed development, the relevant planning policies, the gist of the representations made, my appraisal and conclusions and my recommendations. Document references are shown in brackets or given in footnotes, and in my conclusions the numbers in square brackets indicate the relevant paragraphs of the report. Details of the people who took part in the Inquiry and comprehensive lists of documents are attached at the end of the report. Possible conditions in the event that Ministers decide to grant planning permission are also attached as an Annex.

2. Original proofs of evidence are included as documents but do not generally take account of how the evidence may have been affected by aspects of the Inquiry. Attention is drawn to the corrections to Documents CCC1&2 and CCC12 in Documents CCC3 and CCC13 respectively. The following corrections were also made by the respective witnesses when giving their evidence: paragraph 3.3.15 of Document RES2 should start 'Table H1 indicates that Zones 6 and 7 …', and in sections 3.1.1, 3.1.2 and 3.1.3 of Annex D to Volume 1 of Documents CD1.17 and CD1.18 the references to parcels 3 and 4 should be interchanged.

Procedural and Background Matters

3. The application was accompanied by an Environmental Statement (ES)[1] comprising Volume I: Non Technical Summary, Volume II: Written Statement and separately bound Appendices, and Volume III: Figures. This was supplemented by Supplementary Environmental Information (SEI) dated March 2012 and August 2012[2]. The March 2012 SEI comprises Volume I- Supplementary Environmental Information: Main Document, Volume II- Supplementary Environmental Information: Supporting Appendices (in two binders), and Volume III- Supplementary Environmental Information: Supporting Figures. The August 2012 SEI comprises one volume containing various reports and drawings.

4. The non-technical summary had not been updated to reflect the additional information in the SEI and the appellants were requested to provide additional information. A Supplementary Non-Technical Summary dated February 2013[3] was submitted in response. The appellants' ornithology witness also submitted a correction[4] to the last part of the 2nd sentence of paragraph 7.6.18 of the ES Volume II.

5. The planning appeal[5] has been recovered for determination by the Welsh Ministers as an administrative convenience to join it with the Common Land applications[6] which could not be determined by an Inspector.

6. I held a Pre-Inquiry meeting at St. Peter's Civic Hall, Nott Square, Carmarthen on 8 May 2013[7]. The Inquiry was held at the same location apart from day 4 which was at the Council Chamber, County Hall, Spillman Street, Carmarthen. The Inquiry sat for 13 days on 15-18 October, 22-25 October, 29 October – 1 November and 7 November 2013. Accompanied visits were made on 24 October and 8 November 2013 and unaccompanied visits were made on 8 May, 7 November and 8 November 2013. I

[1] CD1.4

[2] CD1.5 and CD1.6 respectively

[3] Document RES39

[4] Document RES24

[5] CD1.9

[6] CD1.17 and CD1.18

[7] Notes at Document G1

record my gratitude to Mrs Hamza, Mr Joynson, Mrs Organ and Carmarthenshire County Council (CCC) for providing four wheel drive vehicles on the 8 November 2013. I also made an unaccompanied visit to the Mynydd y Betws wind farm on 6 November 2013 to view track reinstatement works.

7. The Save Mynydd Llanllwni Group (SMLlG) was granted Rule 6(6) status in respect of the planning appeal.

8. Planning permission was refused on the basis that the proposal is contrary to 9 *Carmarthenshire Unitary Development Plan* (UDP)[8] policies. The reasons can be summarised as[9]:

   (a) The scale, siting and prominence of the proposed development would have a major significant adverse visual impact and a major significant adverse impact on the existing landscape character of the site and surrounding area.

   (b) The scale, siting and prominence of the proposed development would create an imposing and dominant visual effect that would result in significant adverse impacts upon the residential amenities of neighbouring residential occupiers.

   (c) The scale, siting and prominence of the proposed development would result in demonstrable harm to the landscape character, visual, ecological and historical qualities of the site.

   (d) The scale, siting and prominence of the proposed development would result in significant adverse harm to the visual, historical and ecological qualities of the Mynydd Llanllwni Special Landscape Area. Improvement, enhancement and management proposals put forward by the applicants are not deemed sufficient to overcome the significant harm the proposed development would incur upon the Special Landscape Area.

   (e) The scale, siting and prominence of the proposal would result in major significant adverse harm to the visual amenities of those using the site and the surrounding area for recreation/amenity purposes.

   (f) The scale, siting and prominence of the proposed wind farm would dominate the registered commons of Mynydd Llanllwni and Mynydd Llanfihangel Rhos-y-Corn resulting in major adverse impacts that would unacceptably harm the landscape, nature conservation and historic qualities of the two areas of common. These impacts would significantly harm the site's recreation and amenity value.

   (g) The permanent and temporary infrastructure associated with the proposed development would have an unacceptable adverse impact on heathland and hedgerow which are identified in legislation and guidance as habitats of regional and local importance. The compensatory and mitigation proposals put forward are considered inadequate and would not address the impacts identified.

[8] CD2.1

[9] CD1.20

(h) The Environmental Statement identifies risks of significant adverse impacts on bird communities of local and regional importance and the habitat they depend upon arising from the permanent and temporary infrastructure associated with the proposed development, whilst the presence of turbines with their rotating blades may result in collision and possible bird fatalities. The mitigation proposals put forward are considered inadequate to overcome those risks and the impacts identified.

(i) On balance the scheme's renewable energy benefits would not outweigh the harm caused to any of the interests identified above.

9. A Statement of Common Ground on Landscape and Visual Matters (Landscape SoCG)[10] was submitted in advance of the Inquiry and a General Statement of Common Ground (SoCG)[11] was submitted on day 6 of the Inquiry.

10. An un-executed Section 106 Unilateral Undertaking[12] was submitted on day 5 of the Inquiry with an amended and completed version[13] being submitted on the final day.

11. Both the planning application and appeal[14] include completed Agricultural Holdings Certificates certifying that two agricultural tenants were given the requisite notices. However, on day 9 of the Inquiry, I was given a letter[15] from one of these tenants indicating that these notices had not been received. I requested that the appellants investigate the matter and report back to the Inquiry. This was done on day 12, when it was confirmed that the notice in respect of the planning application had been sent out by ordinary mail whilst that in respect of the appeal had been sent out by recorded delivery and signed for. The tenant's daughter (who is joint secretary of the Grazing Association and was present for most of the Inquiry) indicated that both she and her mother were home on that day and the signature was neither of theirs. The appellants were asked to prepare a note setting out the circumstances and this was submitted on the last day of the Inquiry[16]. The tenant's daughter indicated that the name of the person who signed the delivery note matched that of the local post woman.

The Site and Surroundings (CD1.20)

12. The appeal site[17] measures approximately 1397 hectares and predominantly consists of common land used primarily for sheep grazing. It is located approximately 15km north east of Carmarthen, 17km south of Lampeter and 2km east of the villages of New Inn and Llanllwni. The red line boundary includes the access road leading from the centre of New Inn to a location adjacent to the site's south western corner and a

[10] CD1.21

[11] CD1.20

[12] Document RES34

[13] Document RES35a-b

[14] CD1.1 and CD1.9 respectively

[15] Document GJ1

[16] Document RES36a-b

[17] CD1.3c Drawing No 01561D2231-06

portion of the A485 extending south of Gwyddgrug as these contain areas proposed for road widening.

13. The site comprises the open commons of Mynydd Llanllwni (CL3) which has an area of around 965 hectares and Mynydd Llanfihangel Rhos y Corn (CL4) which has an area in the region of 225 hectares and are owned by the Crown Estate[18]. The public have right of access thereto for air and exercise through a deed poll executed in 1932 under s. 193 of the *Law of Property Act 1925*. The intervening land between the two commons is at a lower elevation and consists of upland farmland characterised by field enclosures used for sheep grazing. The farmland has the upper courses of rivers which feed into the Cothi (a tributary of the Tywi) running through it. One residential dwelling, the farmhouse at Bryn Llywelyn, lies within the site and the owners' have a financial interest in the proposal. The site is crossed by three minor roads.

14. Most of the site is designated as a Special Landscape Area (SLA)[19]. The designation originally being because it is an extensive area of upland moor and common land which is prominent in the landscape and forms a distinctive backdrop to the Teifi Valley to the north. The designation was updated in 2011 with its value stated to be because it is the most accessible area of exposed upland landscape within the local planning authority's area, it is an area of common land and supports areas of heathland, has scenic and ecological interest, and has bronze age burial sites on the main ridge, which highlight the importance of the historic environment of the area, and the values placed upon this area in the past. A multi-faith peace cairn has been built on Mynydd Llanfihangel Rhos y Corn[20]. Positioned on the water-shed between the Teifi and Tywi, the site provides extensive views over much of the County.

Planning Policy (CD1.20)

15. The statutory development plan is the UDP[21]. Strategic Policy CUDP 14 supports proposals for renewable energy schemes where appropriate. Policy UT5 is generally supportive of proposals which develop, generate or capture energy from naturally sustainable sources subject to three criteria. These include individually or cumulatively not having a significant adverse impact on the quality of the local environment, on sites of nature conservation, historical or archaeological importance, agricultural value, areas designated for their landscape value, or to species of nature conservation and ecological value. Policy UT6 relates specifically to and is generally supportive of wind turbines, wind farms or groups of wind turbines subject to a number of requirements. One of which repeats that from policy UT5 cited above. Others include that the siting, design, layout and materials should be sympathetic to the characteristics of the land-form, contours and existing features of the landscape, and not causing demonstrable harm to the amenity of any residents.

[18] Document CCC4, Fig. 03

[19] Document CCC4, Fig. 02

[20] Document SMLlG4, par. 32 & 33

[21] CD2.1

16. Policy EN3 seeks to protect local nature reserves, sites of importance for nature conservation and regionally important geological/geomorphological sites. Policy EN5 seeks to protect species and their habitats and requires appropriate positive mitigation measures. Policy EN6 encourages the retention of existing and the creation of new habitats of wildlife importance and measures to ensure their proper management. Policy EN8 relates to landscape features which are of major importance for wild fauna and flora including moorlands. Policy EN9 seeks to safeguard habitats and species recognised in the UK or Local Biodiversity Action Plans. Policy EN16 designates SLAs, including Mynydd Llanllwni, where priority will be given to the conservation and enhancement of the landscape and development that would harm their character and appearance will not be permitted. Policy EN20 states that development which would unacceptably harm the landscape, the cultural and historic quality, nature conservation or the public's right of access to common land will not be permitted.

17. Policy GDC8 requires that the siting and design of proposed developments should have full regard to the physical character and topography of the site through five requirements. Policy BE1 notes that developments or works which would adversely affect the preservation, archaeological potential, amenity, historic value or the setting of sites of a scheduled ancient monument or archaeological remains of national importance will not be permitted. Policy BE2 provides the same protection to sites of local or regional archaeological importance but makes provision for exceptions in specified circumstances. Policy BE3 requires an archaeological assessment where development is proposed on or near sites of archaeological interest.

18. The emerging *Carmarthenshire Local Development Plan* (LDP)[22] also contains relevant policies but it can only be given limited weight in view of the stage it has reached. The Council has also adopted Supplementary Planning Guidance on *Major Wind Farm Development in the Brechfa Forest Area* (SPG)[23]; although now out of date it remains a material consideration.

19. Insofar as national policy and advice is concerned, the most relevant documents are *Planning Policy Wales* (PPW) and *Technical Advice Note 8: Planning and Renewable Energy* (TAN 8).[24] PPW states that the Welsh Government's aim is to secure an appropriate mix of energy provision for Wales whilst avoiding, and where possible minimising environmental, social and economic impacts. TAN 8 sets out seven Strategic Search Areas (SSAs) which are considered suitable for large scale wind farms. It notes that not all of the land within SSAs may be technically, economically and/or environmentally suitable for major wind power proposals.

The Proposals (CD1.20)

20. The development proposed is 21 wind turbines (3 bladed horizontal axis) to a maximum blade tip height of 127 metres with associated electricity transformers, underground cabling, access tracks, road widening works, crane hardstandings, control

[22] CD2.2

[23] CD2.3

[24] CD3.1 and CD3.2 respectively

buildings, substation compound, communications mast and anemometry mast for a period of twenty five years; temporary works including construction compound, laydown area, rotor assembly pads, turning heads, welfare facilities and 8 guyed anemometry masts. Fifteen of the turbines would be located on common land with the other six being on private land[25]. The site sits partly inside and partly outside TAN 8's SSA G[26].

21. A 25-year planning permission is sought after which the wind farm would be decommissioned to ground level and the land restored unless a further permission had been granted in the mean time extending the life of the scheme.

22. Connection to the grid would be achieved through the on-site substations and local distribution network. Western Power Distribution (WPD) will be submitting a nationally significant infrastructure project application for a 132kV line which will also serve the approved Brechfa Forest West wind farm[27] and, if planning permission is granted, the Brechfa Forest East wind farm. The high level grid route study forming part of the ES[28] will not form part of any such application. WPD has started a consultation process on route corridors options to connect the wind farms to the national grid near Llandyfaelog, south of Carmarthen.[29]

23. The application to deregister common land[30] covers approximately 10 hectares of which some 7.4 hectares is on Mynydd Llanllwni and 2 hectares on Mynydd Llanfihangel Rhos y Corn. It includes the provision of around 52 hectares of exchange land, around 14.9 hectares of that would be added to Mynydd Llanllwni with in the region of 10.4 hectares being added to Mynydd Llanfihangel Rhos y Corn.

24. The application to undertake restricted works on common land[31] relates to the construction of access tracks, a permanent met mast, four temporary masts, one temporary communications mast, temporary works areas, crane hardstandings and highway widening/improvement works and associated fencing of not more than 10,559m on Mynydd Llanllwni and 3,643m on Mynydd Llanfihangel Rhos y Corn. The construction land take area applied for is 572,373 square metres on Mynydd Llanllwni and 143,399 square metres on Mynydd Llanfihangel Rhos y Corn for up to 2 years.

Other Agreed Matters

25. There is an existing wind farm at Alltwalis, to the south west of the appeal site, a further wind farm development (Brechfa Forest West), again to the south west but

[25] Document CCC4, Fig. 03

[26] CD1.4, Fig. 3.1

[27] CD9.13

[28] CD1.4, Appendix 4.6

[29] CD3.27

[30] CD1.17a-b

[31] CD1.18a-b

nearer benefits from a Development Consent Order[32]. After the close of the Inquiry, subject to the completion of a s. 106 agreement, the Council granted planning permission for the Brechfa Forest East wind farm to the east of the appeal site[33].[34]

26. The proposed wind farm would be within the 20km safeguarding zone of the Met Office's Crug-y-Gorllwyn weather radar and the Ministry of Defence (MoD) objected to the proposal on the basis of unacceptable interference to the radar[35]. Discussion took place with the appellants and the Met Office recommended a mitigation condition[36]. Just before the Inquiry opened, a letter[37] was received from solicitors acting on behalf of the Met Office advising that negotiations had reached an advanced stage and indicating an intention to be represented at the Inquiry although that did not happen. During the course of the Inquiry, letters were received from both the Defence Infrastructure Organisation and the Met Office[38] confirming that a formal legal agreement had been completed which secured the necessary mitigation and a condition was no longer required.

The Case for RES UK & Ireland Ltd. (Documents RES2, 6, 9, 12, 14, 16, 21 & 37)

The material points are:

Energy Policy - Europe

27. The European Union has provided its own framework for responding to the challenges of climate change. This has included imposing obligations on member states to deliver certain amounts of their energy from renewable sources by 2020. For the UK the figure is 15% of energy to be derived from renewable sources by 2020. PPW[39] confirms the commitment that the Welsh Government (WG) has given to the delivery of renewable energy to meet the target.

Energy Policy - UK

28. The European obligation is reflected in the UK's energy policy. Mr Stewart's analysis[40] is comprehensive and the conclusions he draws from the UK policy background are very different to those presented by Mr R Jones. Much of his evidence derives from a report produced for the Council by CLG Consultants[41]. The analysis

[32] CD9.13

[33] Document G9

[34] CD1.7 pages 60 & 61, turbine locations shown on Document CCC4, Fig. 01

[35] CD1.7, pages 35 & 47

[36] Document CCC18, Appendix 10

[37] Document G3

[38] Documents G4 and G5 respectively

[39] CD 3.1, par. 12.8.2

[40] Document RES16

[41] Document CCC18, appendix 2

undertaken by CLG misinterprets the relevance of the potential scenarios identified in the UK Renewable Energy Roadmap[42].

29. The UK Government remains committed to the delivery of further renewable energy and the general commitment made has not altered the continued application of the statement of renewable need as set out in the White Paper in 2007 and this was further confirmed within the overarching National Policy Statement for energy[43]. It is also illustrative to note Mr Stewart's comments about the progress towards the other targets to achieve the overall UK target of 15%. It may well be that the requirement for electricity may have to increase (already 30%). Mr Stewart also highlights that the policy framework is now seeking to examine the position beyond 2020. It is evident that there will be a further need to de-carbonise energy generation post the 2020 timeframe and as a consequence the strategic framework for delivery of renewable energy at a UK level is continuing to develop.

30. The only other general point which it is important to note is the fact that in 2012 the UK had achieved just 4.1% of the 15% target. This shows the extent of the challenge which is faced by the UK in meeting the 2020 target. It also explains why the UK Government's response continues to be that we need as much renewable energy as quickly as possible and that is reflected in its current policy framework. It is simply not credible to leave matters to the end of the decade to resolve.

Welsh policy

31. It is clear that whilst European and UK policy provide a context, the most important energy policy in the determination of this appeal is that promoted by the WG. The current policy is contained in the Energy Policy Statement from March 2010[44]. The statement includes a Cabinet Forward and an Energy Policy Statement overview. These all provide the context for the subsequent main sections. The forward and the overview give a very clear commitment as to where Welsh policy stands in relation to renewable energy.

32. In terms of delivery, three key elements are identified:

- maximising of energy savings and energy efficiency;
- meeting energy needs through low carbon energy production; and
- maximising the economic opportunities and rewards in the transition to a low carbon economy.

Onshore Wind

33. In relation to onshore wind there is a clear and unequivocal aim[45]: "*Our aim is to have 4.5 KWh/d/p of installed onshore wind generation capacity by 2015/2017*." The

[42] CD 3.6, page 31 and text at paragraph 2.5, repeated at paragraph 2.6 of CD 3.7

[43] Doc RES17 par. 1.1 & 4.1

[44] CD 3.10 (main sections)

[45] CD 3.10, page 14

bullet points underneath the commitment identify how the WG proposes to achieve this. The most relevant of these is: "Optimising the use of the existing strategic search areas as set out in TAN 8 on Planning for Renewable Energy keeping the TAN under review in light of progress towards these targets".

34. It is quite remarkable that Mr R Jones did not make reference to this key text and only referred to Appendix 1 in his evidence. The aim relates to output not to installed capacity, being expressed as a proportion of energy utilised per person. The objective is that this proportion of electricity should be generated for the Welsh population. It also has a time dimension in seeking to achieve it by 2015/2017 with the WG being very mindful of the urgency of the response to climate change. It is important to note that all the technologies identified as potentially being supported have time objectives as well. This is entirely consistent with the earlier text which identifies the pressing need for the response to climate change.

35. Within the policy statement there is also an encouragement to companies to locate and invest in the new low carbon future for Wales. It is clear that in the context of this, the WG is seeking to maximise the economic contributions that would flow from such investment.

36. Appendix 1 to the policy statement sets out a means by which the overall target of 4.5 KWh/d/p can be achieved. It would require 2 GW of capacity operating at a load factor of 30%, producing 5TWhr. It is important to note the load factor as this is relevant to how TAN 8 can assist in the implementation of this policy objective.

Planning Policy Wales[46]

37. PPW provides clear support for the policy aims as set out by the WG in the Energy Policy Statement and that it should form a key consideration in decision making within the planning system. In particular: "*Planning policy at all levels should facilitate the delivery of both the Welsh Government's overall Energy Policy Statement, and UK and European targets on renewable energy*[47]."

38. It is acknowledged by CCC that this application is likely to provide energy which could meet the timescale envisaged by the policy objective[48].

TAN 8[49]

39. TAN 8 was initially published in 2005 but was preceded by a number of studies which informed the final document. Some of these have been referenced by Ministerial Statements relating to TAN 8. In order to understand the context of TAN 8 it is necessary to examine the background documents.

[46] CD3.1

[47] CD3.1, par. 12.8.2

[48] Doc CCC17, par. 5.27

[49] CD3.2

40. The first of these is the ARUP final report of July 2004[50]. This provided the capacity that was capable of being delivered by the various SSAs identified. It utilised an understanding of grid capacities recognising the strength of the network in South Wales with significant issues arising from the potential development in Mid Wales [51]. It established the strategic approach which ultimately informed the final version of TAN 8 and concluded that SSA G had a minimum environmental capacity of 150 MW[52].

41. The output from this assessment was then analysed by Garrad Hassan[53]. This sought to identify potential constraints and also evaluate the potential power output from SSAs. It included an assessment of National Air Traffic Service aviation constraints and a hypothetical exercise was undertaken in relation to noise. The noise study was a fairly crude analysis of a 40 dB (A) noise contour. There was a subsequent acknowledgement in the text that the assessment was not ground truthed to any extent and that some of the properties identified may not even be residential ones[54]. Solely on the basis of this noise assessment, the initial 75 turbine capacity for SSA G was reduced to 66 turbines. A further exercise examined the potential energy yield arising from the various constraints. This expressed considerable uncertainty as to the outputs that would actually be produced from the SSAs. In particular, concerns were expressed about the level of development within forestry and the likely impact that this would have on energy yield[55].

42. A further ARUP report was published in 2005[56] which provided an overview of consultation responses. There were some interesting comments in relation to landscape capacity[57] which are relevant to the debate on landscape issues in this case. Consideration was also given to responses in relation to common land. ARUP confirmed that common land was not a constraint that would justify removal of land from the SSAs.

43. The resultant TAN 8 was published in 2005 with the objective of delivering 800 MW of capacity by 2010. This objective was missed by some way, demonstrating that if an aim or a target is to be achieved it is often necessary to plan to deliver more than is required in order to achieve the objective.

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[50] CD 3.31

[51] as set out in CD 3.29, summarised in CD 3.31 at par. 3.31 and figs. 5.3 and 5.4

[52] CD3.31, table 6.2

[53] CD3.25

[54] CD3.25, par. 2.2.1

[55] CD3.25, page 19 of 20

[56] CD3.24

[57] CD3.24, page 9

44. The next ARUP study of relevance to the current appeal was published by WG in July 2010[58]. In this document ARUP were undertaking a reassessment and validation report of the SSAs having regard to the recently published Welsh Government Energy Policy Statement. The research exercise sought to estimate the contribution that TAN 8 could make in the delivery of the energy aims as set out in the Energy Policy Statement. Table 3.1 illustrated the then level of developer interest. Since this date there have been developments and refinements in relation to the identified projects.

45. For example, at that time the current appeal proposals would have been incorporated as a much larger project which had been submitted for Independent Planning Commission scoping. The document then went on to analyse the level of development which would be required to achieve the 2015 to 2017 objective[59]. The basis of this projection is derived from timelines for delivery[60]. This assumed that all applications in the public domain[61] would be operational by 2020. This identifies the scale of the challenge facing the WG in meeting objectives set out in the Energy Policy Statement.

Development scenarios within SSA G

46. A series of development scenarios could arise from the currently consented and application schemes in relation to this SSA. For the purposes of this assessment, the Brechfa Forest East application has been included within the scenarios. It is clear that a decision has yet to be taken as to whether planning permission will be granted for this scheme[62].

Scenario 1 (Maximum installed capacity excluding appeal scheme)

Name	Number of Turbines	Capacity in MW
Alltwalis 2.3 MW	10	23
Brechfa West 3 MW	28	84
Brechfa Forest East 3 MW (Application)	12	36
Total	50	143

Scenario 2 (Minimum without appeal site)

Name	Number of Turbines	Capacity in MW
Alltwalis 2.3 MW	10	23
Brechfa West 2 MW	28	56

[58] CD3.26

[59] CD3.26, illustrated in fig. 6.1

[60] CD3.26, identified in figure 4.1

[61] CD3.26, table 3.1

[62] See par. 25 of this report for current position

Brechfa Forest East 2 MW (Application)	12	24
Total	50	103

Scenario 3 (Most likely output without appeal proposal - see Mr Stewart's Proof[63])

Name	Number of Turbines	Capacity in MW
Alltwalis 2.3 MW	10	23
Brechfa West 3 MW	28	64.4
Brechfa Forest East 3 MW (Application)	12	27.6
Total	50	115

47. In looking at the scenarios, if a similar position is adopted with maximum/minimum, the addition of Bryn Llywelyn would have the following effect:

- Scenario 1 using 2.3 MW turbines at Bryn Llywelyn it would be 191.3 MW;
- Scenario 2, using 1.8 MW turbines at Bryn Llywelyn would be 140.8 MW;
- Scenario 3, using 2.3 MW turbines at Bryn Llywelyn it would be 163.3 MW.

48. In addition to the above scenarios, another scenario is considered. This relates to the actual scale of development within the SSA G boundary as published within TAN 8. This is the area which was considered by Garrad Hassan in their report[64].

Scenario 4 (Delivery of turbines within TAN 8 boundary as published)

Name	Number of Turbines	Capacity in MW
Alltwalis 2.3 MW	6	13.8
Brechfa West 2.3 MW	28	64.4
Brechfa Forest East 2.3 MW (Application)	12	27.6
Bryn Llywelyn 2.3 MW	16	36.8
Total	62	142.6

Statements on TAN 8

49. The following analysis of the various WG statements assumes that the Brechfa Forest East scheme is consented. In the event that it is not then the capacity issues associated with SSA G would largely disappear. In the context of scenario 3, the exclusion of Brechfa Forest East but the inclusion of the appeal proposals would come to a figure of 135.7 MW.

[63] Document RES16

[64] CD3.25

Statement by Jane Davidson, Minister for Environment, Sustainability and Housing[65]

50. This reaffirmed the WG's commitment to delivering the Energy Policy Statement through TAN 8. It recognised the important role that the planning system has to play in that delivery and supported the delivery of the aspirations in an "efficient and rational" way.

Statement by First Minister[66]

51. This contains comments relating to the potential development within TAN 8 areas. The statement reaffirms the support for a strategic approach which will avoid a proliferation of large scale wind farms. However, it went on to express concerns about potential over capacity in some of the SSAs referring to "greatly exceeded the indicative figures". In addition, there was a statement that the WG considered that the levels of over capacity were "unacceptable in view of its wider impacts on the local area". The letter went on to identify how the potential "over capacity" has led to proposals for major new overhead grid infrastructure and how the WG would not support the construction of large pylons in mid Wales.

Letter by J Griffiths, Minister for Environment and Sustainability, July 2011[67]

52. This opens with strong support for the approach set out in 'A Low Carbon Revolution'[68] and PPW. It goes on to express concerns about the scale of development within SSAs and advises that this "should not reach such a scale that it would necessitate other developments that would run counter to the policy position set out in TAN 8, for example on transmission network reinforcement". This clearly sets out the 'rationale' for the subsequent statements regarding capacity.

53. The letter provides: "further clarity on the issue of the maximum installation capacities for onshore wind within the SSAs identified in TAN 8 in 2005". It goes on to identify the basis for the maximum capacities being derived from the Garrad Hassan study[69]. There are two points which arise from this statement. First, it explicitly makes reference to "within" the areas "identified" in TAN 8. TAN 8 identified a method whereby the boundaries could be altered at a local level by refinement exercises. No such exercise has been completed in respect of SSA G and therefore the reference within this statement should be read as the TAN 8 boundary identified in the 2005 publication. Furthermore, the output of the Garrad Hassan environmental constraint study was expressed as 66 turbines.

54. The statement goes on to make express reference to grid requirements and additional grid infrastructure within Mid Wales. It is clear that in respect of SSA G the proposed level of development does not raise strategic concerns of the nature which were identified as a basis for the policy. Dealing first of all with the First Minister's

[65] CD3.17

[66] CD3.30

[67] CD3.20

[68] CD3.10

[69] CD3.25

concerns. He identified two particular matters - the impact of grid and transport connections. In the context of SSA G there has been no objection to the combination of application schemes from a transportation perspective and the main grid connection upgrade will be the same irrespective of whether or not the appeal proposal is granted. Similarly in relation to the particular matters of concern to the Minister, none of them are applicable to SSA G.

55. In a recent appeal decision in respect of Mynydd-Y-Gelli[70], the Inspector had to deal with issues relating to potential capacities and the geographic extent of the capacity limit. Within the decision she identified some uncertainty arising from the terms of the letter.

56. Mr Stewart has provided evidence on the likely progression towards the 2015/17 objective and undertaken an analysis of the likely delivery of TAN 8 in the context of the Welsh Energy Policy aspirations[71]. In particular, he identifies that certain of the SSAs are unlikely to deliver at all - in particular area D. It is clear that there is likely to be a shortfall in delivery from certain of these areas.

57. In this regard, the Welsh Ministers will have an important decision to make in respect of SSA G. The primary policy objective is set out in the Energy Policy Statement. The concept of optimisation would seek to secure the maximum output from the respective SSAs, subject to ensuring that strategic environmental issues did not arise.

58. If a decision is taken that the capacity cannot be exceeded then the likelihood is that SSA G will also fall short of its anticipated maximum. This will result in 46 turbines within the area assessed by Garrad Hassan as having a capacity for 66. Against that background, the scale of development currently being pursued in the SSA is similar to that identified in the ARUP and other studies. Furthermore, the main difference in capacity arises because of the capacities of the turbines being 2.3 MW as opposed to the 2 MW anticipated in TAN 8. If the installed capacity is based on larger machines there will be a decrease in efficiency. In that context if the overall capacity is achieved using fewer larger machines then there would be a need to increase capacity to achieve the same electrical output, with Welsh Energy Policy being expressed in output terms.

59. In the context of the Energy Policy Statement, there are comments which support the "optimising" of the contribution from an SSA. In respect of SSA G, optimisation would mean that one should make the most of the grid connection that is to be provided. It is noted that CCC is very keen to see undergrounding of parts of that grid connection. The ability to pay for the undergrounding would be enhanced by both Bryn Llywelyn and Brechfa Forest East being consented as connections are funded by developer contributions. It would also result in a more efficient cost base for the ultimate renewable energy to be generated. In this context, the development of the full potential of SSA G would be consistent with both UK policy and the Welsh Energy Policy Statement.

[70] CD9.25

[71] Document RES 17, appendix 2

60. It is very important that the Ministers are given a very full explanation of the proposals in respect of SSA G. The concerns expressed in the previous Ministerial Statements do not arise in the context of SSA G and the refusal of this scheme is likely to result in a less than optimal utilisation both in landscape and grid capacity terms.

61. It is also evident that there are likely to be shortfalls in the delivered capacity within certain of the other SSAs[72]. It would be consistent with the Energy Policy Statement that optimisation of capacity from TAN 8 search areas should be preferred to further development of large scale schemes outwith TAN 8 areas. The grid capacity within SSA G would result in a very effective and efficient means of achieving this. It would also be consistent with the concerns raised about ensuring that the WG policy is achieved through the planning system.

62. It is clear that a positive delivery of SSA G would be a very positive response from the WG to the challenges faced in some of the other SSAs and would demonstrate a clear commitment to the delivery of the overall policy objective without compromising the express concern about significant additional infrastructure. It is clear that the consideration of the capacity issues in respect of SSA G has raised important issues in the context of meeting the aims expressed in energy policy whilst ensuring that decisions are consistent with the concerns previously expressed.

63. For example, if there are potentially going to be shortfalls in the delivery of some of the other SSAs, then that would open up arguments to permit large scale schemes in areas beyond the SSAs. This would clearly run counter to the whole thrust of Welsh energy policy which has been to avoid proliferation by delivering a strong spatial framework. Other parties to the Inquiry may suggest that this approach is essentially a challenge to WG. All that has been done is to understand the wider policy context set out in the Energy Policy Statement and to analyse how that can be delivered within the overall policy framework.

64. In addition, the Ministerial letter clearly raises issues of interpretation over the boundaries of where the capacities may lie. One is entitled to look at the overall policy framework and to reach conclusions arising from the entirety of the policy framework. In addition, in interpreting a Ministerial letter, it is permissible to seek to understand the particular objective that the policy is seeking to deal with. Furthermore, if Mr Stewart's evidence on the achievement of the aims is accepted, then there is a real possibility that there could be potential conflict between the Energy Policy Statement and the potential constraints imposed on delivery through TAN 8. It is clearly a matter for Ministers to resolve any such conflict.

Landscape and Visual

65. The professional witnesses who appeared at the Inquiry in respect of the landscape and visual session[73] were able to reach a high level of agreement over the effects that the proposal would have on both the landscape and visual resource. This is reflected

[72] Document RES 17, appendix 2

[73] Ms Bolger and Mr Goodrum

in the Landscape SoCG[74] that they were able to agree. The following paragraphs focus on the limited areas of disagreement which remain.

Landscape Sensitivity

66. Mr Goodrum's evidence and appendices[75] provide a comprehensive assessment having regard both to policy and professional guidance. He used the methodology provided in the second version of the 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA), because where assessment has already been undertaken on that basis it is appropriate to continue to do so. This was based on advice given by the Landscape Institute at the time of the introduction of the third edition. In addition, he has had full regard to the 'LANDMAP Guidance Note 3', published in May 2013 in relation to the landscape and visual impact assessment of onshore turbines[76] and sets out a full assessment against each of the LANDMAP aspects[77].

67. To some extent there is a broad measure of agreement that the physical aspects of the site are ones which are identified as being capable of accommodating large scale turbines[78]. This is not surprising given that the site selection process for TAN 8 sought to identify certain large scale upland locations as being the most suitable for large scale wind farm development. These general landscape considerations are also consistent with the guidance contained in Scottish Natural Heritage's (SNH) 'Siting and Designing Wind Farms in the Landscape'[79], (the former Countryside Council for Wales (CCW) have cited this document in its Guidance Note 3[80]). The approach is also supported by the document published by the Design Commission for Wales in October 2012 'Designing Wind Farms in Wales'[81]. The criticism by CCC in respect of Mr Goodrum's assessment appeared to primarily relate to how he took into account value. This is fully reflected under his "visual sensitivity" analysis.

68. The argument on behalf of the Council appeared to be primarily based on two further matters. First of all it was based on establishing the landscape sensitivity based on the third edition of the GLVIA[82]. This essentially divides the assessment into susceptibility to change together with the value of the landscape receptor. It is clear that in regard to his assessment Mr Goodrum has had regard to both LANDMAP data and also the SLA status of the site.

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[74] CD1.21

[75] Documents RES2-4

[76] CD4.4

[77] Document RES4, table 1 of Appendix 2.1

[78] Documents RES4, appendix 2.2, and CCC2, section 6.2

[79] CD4.6, par. 4.31 to 4.33

[80] CD4.4, page 19

[81] Document RES23, page 3

[82] CD4.1, page 88-89

69. Ms Bolger on the other hand seems to suggest that the LANDMAP visual and sensory aspects should just be translated directly into sensitivity. This approach is not supported by the 'LANDMAP Guidance Note 3'[83] which states "*However, value does not necessarily equate with suitability or lack of suitability for a particular development; it is part of the underlying information from which this evaluation can be derived*". In addition, it is also a view that was not shared by ARUP in the formulation of TAN 8 who noted "*It is important to note, therefore, that high or outstanding value in a LANDMAP aspect does not necessarily mean that an area has a lower capacity for the development of wind turbines*"[84]. An SLA designation is a local one and that would put it to the mid-tier of value.

70. The Council also sought to run an argument that the fact that a single criteria in the visual and sensory aspect for Mynydd Llanllwni was categorised as outstanding meant that the LANDMAP evaluation was "above high". This argument does not have any support from LANDMAP guidance. The visual and sensory aspect incorporates a range of considerations and a number of evaluation criteria. There are 4 criteria and only one was categorised above high – rarity, with VS 50 providing an overall evaluation of high[85]. It should also be remembered that part of Carmarthenshire's upland lies within the Brecon Beacons National Park. Mr Goodrum has carried out a very comprehensive exercise in analysing not only the data for the immediate appeal site but also its wider context in respect of the other LANDMAP data. This contrasts with the very narrow focus which Ms Bolger has given to the matter.

71. In addition to the LANDMAP data, the ARUP refinement study[86] was also extensively referred to in terms of the landscape sensitivity debate. It is important to note that the refinement study was never adopted and reflected an attempt to accommodate 90 MW of installed capacity in SSA G. It identifies the particular attributes of a "large scale rolling but simple landscape" being the type of landscape which may be valued but which is able to accommodate wind farm development in landscape capacity terms. In landscape capacity terms, the majority of the appeal site was classified as medium within the ARUP study[87]. Zone 7 (wrongly labelled but acknowledged by both landscape witnesses) was classified as medium high. It is clear that the findings of the ARUP study do not accord with Ms Bolger's position and as a consequence she attacked it.

72. The two lines of attack were that they had failed to have proper regard to the SLA status and also had failed to have proper regard to views. The comments regarding the SLA status are unjustified given that the study clearly reflects an understanding of

[83] CD4.4, last paragraph page 4

[84] CD3.24, page 9

[85] The visual and sensory LANDMAP data is contained in Document RES4, appendix 2.3 page 32

[86] CD3.21, the landscape methodology is set out at section 4.2

[87] CD3.21, page 35

the position[88]. In respect of views, each of the landscape sensitivity worksheets reports the views out and the particular characteristics of each unit are very clearly described[89]. It should also be noted that ARUP, in considering landscape sensitivity, had full regard to the LANDMAP classifications which were available at the time. These are set out below each of the landscape character sensitivity conclusions in respect of each area. ARUP, with their experience in undertaking capacity assessments for wind farm development, have reached a fundamentally different view from Ms Bolger as to the landscape sensitivity relating to the appeal site.

Skyline Sensitivity

73. The other area of general debate in relation to landscape sensitivity related to sensitivity of the skylines. Mr Goodrum was of the opinion that the simple skylines created by the upland areas in this location provided the type of skylines that SNH considered were suitable for wind farm development. In particular, the Inquiry examined a range of viewpoints where the overall skyline was illustrated within the various viewpoints. It is clear from an examination of these viewpoints that the landform provides a huge scale of skyline into which turbines can be accommodated in accordance with the guidance produced by SNH. Ms Bolger sought to introduce a distinction between forested areas and open skylines. Mr Goodrum did not believe that this distinction was particularly important or relevant to the overall conclusions as to landscape sensitivity. In addition, the extensive range of photographs provided by Mr Ablett[90] on behalf of SMLlG further illustrated the simple skyline created by the landform in this location.

Special Landscape Area

74. The respective witnesses disagreed on the potential impact on the SLA. Mr Goodrum's assessment[91] has been undertaken in accordance with the SLA review document[92]. It recognises the high to medium impact on the exposed upland landscape and identifies medium impacts on views out over the County. The views over the County are ones which are expressly mentioned in both LANDMAP and the SLA review document of 2011. It is of note that both Ms Bolger[93] and Mr Goodrum agree on the level of impact that the proposal would have on these views.

75. One element which Ms Bolger has failed to take into account in almost all of her evidence is the effect that the consented Brechfa Forest West scheme would have on the baseline. Nor does she take into account the fact that the construction of Brechfa Forest East would have on views out from the SLA. It is clear that these

[88] CD3.21, pages 22 and 23

[89] For example, see the description in appendix E, pages E15, E18, E21 of CD3.21

[90] Documents SMLlG1 & 2

[91] Document RES2, par. 5.7.11

[92] CD4.16

[93] Doc CCC2, Section 7.3

developments would alter the perceptual qualities that she focuses in on in terms of her assessment of the SLA. The evidence of Mr Goodrum should be preferred on this matter. It was interesting to note that in the consideration of Brechfa Forest West, the Inspector considered the sensitivity of a receptor at the Peace Cairn[94]. Whilst, there was debate about certain of the methodologies applied in assessing the impact, there was agreement as to the sensitivity of the Peace Cairn location - medium sensitivity to change (mainly reflecting an assessment of the number of people/receptors who would view it). This appears to support the conclusions that were reached by Mr Goodrum.

Impacts on Landscape Fabric

76. A further argument advanced by Ms Bolger related to the impact that the infrastructure would have on landscape fabric. She described it as the 'spider's web' of access tracks. The access tracks would amount to less than 1% of the overall area and this is more than accounted for by extensions to the common in the exchange areas. These would extend the area of unenclosed land and in due course revert to a semi-natural state.

77. In addition the argument advanced by Ms Bolger in relation to infrastructure is not borne out by appropriate analysis. In particular, the infrastructure would not be extensively visible. The lower areas around Mynydd Llanllwni do not have views of the development area. In addition, if one drives along the mountain road in either direction, the extent of visibility of the infrastructure would be extremely limited. This derives from the slight rise in ground which occurs about the location of the access track to Bryn Llywelyn. This would essentially shield any views of the infrastructure from the east. Similarly, as one travels up from Mountain Gate, the ability to see the infrastructure would occur only for a very short distance in proximity to Crug-y-Biswal. There would be some visibility of infrastructure from the Peace Cairn.

78. However, the major infrastructure such as the sub-station would be located within the valley. In that context the extent of the visibility of the infrastructure would be very limited and largely arise in close proximity to the development site. In that respect the topography of the appeal site is extremely well contained as far as the visibility of infrastructure is concerned. This argument has little merit and can be contrasted with situations such as that presented by Mr Ablett[95].

79. It is evident that this heathland can accommodate infrastructure such as the tracks and this is further illustrated in the photograph preceding page 1 of 'Designing Wind Farms in Wales'[96]. The 'spider's web' would only ever appear in map form or from an aerial perspective. In addition, it is a major benefit that the proposal would be accessed by public highways. This avoids access tracks having to climb up a visible slope to service the proposed development. It is clear that this argument about the

[94] CD9.13, par. 4.26

[95] Document SMLlG1, page 26

[96] Document RES23

'spider's web' was a strategic one taken by the Council after the refusal decision and is reflected in the evidence of a number of its witnesses (including Ms Bolger, Ms Carmichael and Mr Trehy).

80. The lack of visibility was also well illustrated in Mr R Jones' fly through[97]. The model that had been prepared by Mr Trehy did not include access tracks. It was clear from the fly through that in respect of extensive sections the lower parts of the turbines were not visible. This provides a useful illustration of how the topography of the appeal site would not provide widespread views of the infrastructure serving the development. Far from being a weakness of the proposal, the topography and land cover provides a strong framework for the incorporation of such infrastructure without wider landscape and visual effects.

Residential Amenity

81. The relevant Committee report[98] advised that no individual property would suffer an impact which would result in the property becoming an unpleasant place to live. The relevant tests are set out in Mr Goodrum's Proof. Post the Committee decision, the appellants sought clarification from the Council regarding the list of properties to which the Council's ground of refusal in relation to these matters was directed. A list was provided and Mr Goodrum carried out a detailed assessment[99]. Ms Bolger now accepts that none of these properties would fail the residential test though there would be significant adverse visual effects on them.

82. Late in the day, additional properties at Rhos Wen were identified. Mr Goodrum has undertaken a further assessment of these properties. It is clear that Ms Bolger's assessment of the effects on these properties was not accurate and in part overstated. She failed to note that there were 3 properties and also suggested that the complete horizon would be dominated by turbines. That is not accurate and it is clear from the more detailed information that only the top halves of the turbines would be visible. In addition, trees provide significant screening in respect of the turbines located to the north west. These properties also benefit from a significant foreground between the properties and the turbines located beyond the horizon. The detailed and thorough assessment undertaken by Mr Goodrum should be preferred to that of Ms Bolger.

Conclusions

83. It is clear that the proposal would have a number of significant adverse landscape and visual impacts and these are largely agreed between the respective witnesses. These effects are ones which will have to be considered in the overall planning balance. It is important that the Council has acknowledged that there would be no cumulative impacts which are unacceptable. Furthermore, the main difference between the respective witnesses was the fact that Ms Bolger appeared to ignore all

[97] Document CCC32

[98] CD1.7

[99] Document RES3, appendix 1.4

the other schemes and the impact that that would have on the baseline into which the appeal proposals have to be considered. The Council's position on the cumulative issue demonstrates the significant landscape capacity which exists in the strategic search area and how the various schemes can co-exist within it.

Noise

Condition Limits

84. The Council and the Rule 6 party do not object to the application based on noise issues. Both the Rule 6 party and the Council accept that the assessment of noise undertaken in the ES has been undertaken appropriately. The appellants have extensive experience in dealing with noise issues associated with the development of wind farms. Noise issues have been fully accounted for in the design of the scheme. In particular, the ES highlights that a 930m buffer zone was included in the scheme design[100]. This considerably exceeds the figures utilised in other types of assessment, including those in TAN 8. The appellants seek to ensure that noise issues would not arise because of the application of an appropriate stand-off to residential receptors. The only difference between the parties is that there is a small difference between the appellants and the Rule 6 party relating to the limits that should be applied.

85. The appellants have proposed a set of conditions which deal with both night time and day time operation, having regard to the fact that there are certain locations where the appeal proposals are the only wind farm which is relevant but, at the same time, also dealing with locations where cumulative effects could arise. The appellants have used a night time limit of 40 dB, which is 3 dB lower than the limit proposed by ETSU-R-97 (Report on 'The Assessment and Rating of Noise from Wind Farms')[101]. In addition, day time lower limits have been fixed in a range from 35 dB to 40 dB. ETSU-R-97 provides for this range of limits during the day time. Both the Council and Npower Renewables Ltd.[102] have reviewed these limits and agree with them.

86. The Rule 6 party has suggested a night time lower limit of 38 dB together with the lowest ETSU-R-97 day time limit of 35 dB. It should be noted that this 38 dB figure is some 5 dB lower than that proposed by ETSU-R-97 and the 35 dB figure is at the lowest level that ETSU-R-97 provides for. The loss of power to achieve the limits proposed by the Rule 6 party would be 1,261,911 KWh/yr. This is a material loss of output and is not justified for the limited reduction that would be achieved in noise limits. The position supported by the Council should be preferred to the exceptionally low limits proposed by the Rule 6 party.

87. Mr Stigwood raised concerns about the cumulative effects between the appeal proposals and Alltwalis. This derived from the fact that the condition relating to Alltwalis was based on a measured as opposed to calculated 10m basis. He had not considered the practical implications of this given the distances between the two sites

[100] Table 3.1

[101] RES19, par. 5.4

[102] Document G7

in detail and was unable to identify any particular properties nor the practical implications of the point that he was making. His view is not shared by the other acousticians who appeared at the Inquiry in relation to this matter and his generic comments should not be given weight.

Amplitude Modulation

88. The fact that wind farms cause amplitude modulation (AM) has been a matter that has been recognised since the publication of ETSU-R-97[103]. At that time it was anticipated this could generally be up to 3 dB(A) peak to trough and at locations where there are more than two hard reflective surfaces, up to 6 dB(A). There have been subsequent studies into the concept of AM[104]. It appears that there is a general consensus that the risk is higher at sites where "stable atmospheric conditions may occur"[105]. The recommendation of the Hayes McKenzie report[106] was that a means to assess and apply corrections for AM should be developed.

89. It is acknowledged that the number of sites attracting complaints about AM has now increased and this is one of the reasons which have prompted the Renewable UK study[107]. There also appears to be general agreement that the existence of high wind shear is likely to be a primary factor leading to occurrences of AM[108]. Dr McKenzie has undertaken analysis of the wind shear information at Bryn Llywelyn based on a full year's data and this demonstrates that the site in question does not exhibit high wind shear. This suggests the likelihood of AM occurring at Bryn Llywelyn is low and this is a view shared by Mr Sharpes[109].

90. The issue which requires to be resolved is how the low risk of AM at Bryn Llywelyn should be controlled. On the one hand Mr Stigwood advocates a metric contained in a condition which he sets out[110]. Mr Sharpes offers a condition which sets a general framework together with a means of assessing the complainant's response to specific occurrences[111]. Dr McKenzie produced a simplified variant to Mr Sharpes' condition[112].

91. The current state of scientific knowledge relating to AM is limited. There is no agreed metric for objectively providing a specific quantification with the limit of 3 dB defined in paragraph (a) of Mr Stigwood's condition not being something on which

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[103] CD11.1, page 68

[104] CD11.2 and 11.3

[105] CD11.3, page.54

[106] Document GBG6a

[107] referred to in Document GBG5, para. 4.74

[108] (Documents RES19, para. 4.13, and GBG5, para 4.68)

[109] Document SMLlG11, para. 4.3

[110] Document GBG5, pages 43 to 46

[111] Document SMLlG11

[112] Document RES32

there is any consensus. In particular, there is no data which supports the view that this is the appropriate threshold. It should be recognised that the 3 dB change in levels has previously been identified and predicted to occur under normal operation in terms of ETSU-R-97. That is one of the reasons why the industry has grave concerns about the metric proposed by Mr Stigwood.

92. In addition, Mr Stigwood claims that he has support for the 3 dB threshold from other published papers, including Van den Berg[113]. However, when the Van den Berg reports are examined, the 3 dB fluctuation is described as negligible but increasing above this value. In addition, Mr Stigwood claimed that Japanese studies lodged by Dr McKenzie[114] further supported his position, but they do not. It also has to be remembered that in the context of these studies, Mr Stigwood's dB (A) equivalent is 2.3 of the alternative index. The study stated that the ability to "sense" AM occurred at around the 2 to 3 dB (A) level[115]. The subject response to the various levels show an increasing response according to the increasing AM index[116]. This information does not support the view that a 3 dB (A) level is the appropriate one. Indeed, the assessment methodology set out[117] would, according to Dr McKenzie, form the basis of applying a penalty, not a threshold. Simply put, there is no accepted scientific basis for accepting that the 3 dB threshold is an appropriate one to set the limit at.

93. Mr Stigwood does not provide any basis for the AM that he has measured being related to the specific complaints which he purports to be responding to. Against that background, his measurements of AM do nothing more than confirm that under certain weather and wind conditions the sites which he is investigating produce a certain level of AM at a point in time. At no point do his assessments or measurements assess the frequency of these events, nor whether they directly relate to issues experienced by receptors. This is a significant failing in his current understanding but one which he just refuses to accept.

94. In addition, there are serious concerns about the practical implication of the measurement basis. The work undertaken by Jeremy Bass indicates that AM can naturally occur within background noise measurements which are not influenced by wind farm development at all[118]. Mr Stigwood just dismisses this on the basis that background noise and wind farm noise can be differentiated. This could be true of circumstances where there is a major difference in level between the background noise and the noise emanating from the wind farm. There could, however, be realistic circumstances where the AM is being measured in circumstances where the background noise measurements are not dissimilar. This is particularly relevant as Mr

[113] Document GBG6c

[114] Document RES20, appendices A1 and A2

[115] This is also reflected in figure 12 of A2, Document RES20

[116] As set out in figure 11 of A2, Document RES20

[117] In figure 11 of A2, Document RES20

[118] Document RES20, Appendix A5

Stigwood's metric comes into play above 28 dB(A). There are, therefore, very real concerns that the measurements implemented under the condition could result in false accusations of AM on the basis of naturally occurring AM within the background noise. On the basis of the above information, it would not be reasonable to impose a condition as set out in Mr Stigwood's Proof.

95. A comprehensive further study is currently being undertaken[119]. The Renewable UK research is due to be published later this year (2013). The aim is to identify the source mechanism for AM and provide information which could be used to develop appropriate control schemes. It is clear that the conditions proposed by both Mr Sharpes and by Dr McKenzie would enable the development of understanding in relation to AM to be taken into account in formulating an appropriate response to any complaint situation.

96. The evidence has demonstrated that there is very limited knowledge as to the means of mitigation or indeed the precise mechanisms which may be creating AM where it occurs. The potential mechanisms and controls are being further investigated through the Renewable UK study. It is clear from the presentation of Malcolm Smith[120] that measurements require a comprehensive understanding of the noise, meteorology and what is happening at the wind turbine. It is only by having this information that a proper understanding of the issues involved can be gained. It was very interesting that Mr Stigwood was uninterested in finding out the mechanisms that might be occurring at the turbine. This would be essential in formulating appropriate mitigation in circumstances where problematic AM may occur.

97. It is recognised that given the current state of scientific knowledge, the issue of AM is currently in a state of transition. In light of those circumstances it would be unreasonable to impose a condition of the metric suggested by Mr Stigwood. Simply put, the evidence is not there to support the view that he has the metric at an appropriate level. Indeed all evidence suggests that a 3 dB rise and fall in sound pressure level is likely to be applicable to most turbines. It provides no margin between that which was discussed in ETSU-R-97 and the failure to comply with a condition.

98. In the circumstances an alternative condition is required and it would be appropriate to provide the flexibility offered by Dr McKenzie's condition. It is clear that this would give the Council a mechanism to respond to any complaint. If the Council consider that AM is present in the noise, the operator would be obliged to submit a scheme both for the further investigation and, if necessary, control of the AM. The operator would be required to provide a best available technique response. If Dr McKenzie's condition is not preferred then that of Mr Sharpes provides a more appropriate mechanism than that promoted by Mr Stigwood. It provides an ability to test whether AM is a contributory factor to any noise complaint and would oblige the operator to provide an appropriate mitigation scheme in those circumstances.

[119] Document RES20, Appendix A4

[120] Document RES20, Appendix A3

Impacts on the Local Area

99. Evidence was given at the Inquiry from a wide range of local people relating to the potential impacts that the development would have on the local area. The effects that the proposal would have in landscape and visual terms and in respect of noise have been addressed above. In addition to the residential receptors there would also be impacts on the potential users of the commons. The evidence in relation to this usage appears to be that there is local usage of the commons by those residents who live in the locality. It is clear that the commons are valued by them and that they use it for a range of activities, including walking, horse riding, bird watching and family walks. In addition, certain families have other associations with particular locations. In addition to the local residents, evidence was also given that certain groups use the common including organised hunts and local ramblers.

100. In terms of riding, Mr Joynson advised that the area where the turbines are proposed is not one which is extensively used for riding. It is wetter than other areas of the common and therefore is less suitable for this activity. It is also evident from the photographs that were lodged[121] that the hunt was not utilising the wind farm area but were carrying out their activity on the slopes below.

101. Concern has been expressed about the potential impact of the turbines on horses. In this regard a number of documents have been lodged before the Inquiry by the British Horse Society (BHS)[122]. There is also advice from the BHS in Scotland about its experience in relation to wind farm development[123]. It is evident that there has been significant deployment of wind farms in Scotland and therefore their Scottish members have experience of riding in areas where wind farms are located. It provides specific advice as to how horses can be safely familiarised with turbines.

102. This to some degree conflicts with the advice given by the BHS in England and Wales which does not include a statement giving advice on how horses habituate to wind farms. BHS Scottish guidance states "*The BHS believes that if horses are familiarised with wind turbines in a gradual and sympathetic way then most horses will accept them*". However, both sets of guidance recognise that the separation distance is different for paths and national trails as these are likely to be used by equestrians unfamiliar with turbines. The appeal proposals involve development on open ground therefore it is unlikely that the turbines would suddenly come in to view. All this would tend to mitigate the potential impact on horse riding activity.

103. Evidence was also given at the Inquiry in respect of local tourist accommodation. Tourists use the commons for walking. However, the commons are not actively promoted by the tourist authorities. This is in contrast to Brechfa Forest which is actively promoted as a tourist destination. Indeed the facilities for tourist access are very limited within the commons. The car parking is by its nature informal and not actively promoted. It is acknowledged that there are some local initiatives which are

[121] Document SMLlG8

[122] Document VK1e

[123] In Document RES17

going to try and improve the promotion of the local area. Concerns have also been expressed about the impact that the development may have on tourist businesses. There has been substantial research on this issue and none of it identifies that wind farms have material effects on tourist activity[124].

104. It is acknowledged that the appeal proposals would have an adverse effect on the amenity of users of the commons. Almost all upland areas have a local value and usage. This is reflected in other Inquiry decisions which have been taken in the area[125]. These are matters which will require to be taken into account in terms of the overall balance.

105. It is also relevant in the context of the appeal proposals that it is located within a TAN 8 SSA. The development of Brechfa Forest West will significantly alter the context of wind farm development in the area. It is a significant project and will be widely visible as is illustrated in the material submitted to the Inquiry by Mr Goodrum. The extent of the visibility is illustrated in the cumulative Zone of Theoretical View (ZTV)[126]. The ZTV also illustrates the extent of visibility of Brechfa Forest West on the commons. It will be widely visible. The influence of wind farms would be further increased in the event that Brechfa Forest East was to be consented. The extent of landscape change was a matter which was specifically identified as likely to occur within TAN 8 areas.

Grid Connection

106. The Rule 6 party has maintained that the appellants should undertake an assessment of the potential grid connection as part of the appeal process. The ES[127] provided an overview of the grid connection which had been proposed at that time. The appellants are not licensed to construct distribution assets and WPD is the distribution operator in the area. The appellants complied with the requirements of the *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999* (as amended) in so far as they could at the time of the application. In that regard they have complied with the obligation to provide the information in terms of Schedule 4, Part 1, having regard to what may reasonably be required.

107. It would not be reasonable for the appellants to undertake an assessment of the current grid connection options being consulted upon by WPD. In terms of the evidence before the Inquiry, the Council has confirmed that their preference in respect of the grid connection is for there to be a consolidated proposal whereby all remaining projects within the SSA could be connected through a single grid

[124] In Document RES17 and CD1.4, Appendix I

[125] For example, paragraph 80 of CD 9.2 illustrates the extent of local and tourist value in respect of that particular site. It is also reflected in paragraph 94 of CD 9.11 and the effects of tourism in paragraph 95.

[126] Document RES3, appendix 1.3

[127] CD1.4

connection[128]. The provision of a 132 kV line is of a scale anticipated in terms of TAN 8 and national policy. This is the approach which WPD propose to adopt and is reflected in their consultation document which includes preliminary environmental information regarding the potential grid connection corridors[129]. As previously noted, the availability of grid capacity is a factor which weighs heavily in favour of the appeal proposals.

Ornithology

Introduction

108. The 2005 SNH guidance[130] was recommended by CCW (now Natural Resources Wales (NRW)) for use in the assessment of impacts of onshore wind farms on bird communities. The purpose of the guidance is the acquisition of information from a range of sources which can then be used to assess potential impacts on bird populations. It is important to understand that the information gained from all the survey information is relevant to the exercise of that ultimate judgement. The SNH guidance recommends an approach of gaining as much historic background information about the usage of the site and general area as possible and also recommends carrying out reconnaissance surveys. This enables subsequent assessment to be targeted at the key species.

109. In the context of this site, baseline information was available about the likely bird species and in addition, in the summer of 2008, reconnaissance surveys were undertaken including selected vantage point watches. This enabled subsequent surveys to be focused on the target species. It is however important to note that it is the totality of the information that is relevant, not just the information from one source. For example, in relation to considering the potential impact on breeding raptors the use of collision risk modelling has to be combined with survey effort to identify whether such raptors may be breeding in proximity to the site. The combined information enables an informed judgement to be reached.

110. Dr Reed appears to have considered that his remit was to deconstruct the information contained in the ES and the supporting information. At no point does he advise as to the potential impacts of the development, all that he seeks to do is criticise. At no stage is this criticism put in context or considered in relation to the particular species that have been identified in terms of the assessment.

111. In terms of those criticisms, Dr Percival systematically responds to the matters raised by Dr Reed in relation to the survey work[131]. For example, in terms of the 2008 vantage point watches the ES confirms that these are identified as reconnaissance surveys and they are distinguished from the subsequent "season" surveys[132]. In terms

[128] CD10.1, appendix 3.2

[129] CD 3.27

[130] CD8.76

[131] Document RES7

[132] see table 7.4 of CD1.4

of the further vantage watches undertaken, there were two full years of over wintering surveys from September 2008 to March 2009 and September 2009 to March 2010. In addition a breeding season vantage watch survey was carried out from April to August 2009.

112. During the course of the Inquiry Dr Reed lodged information which seems to suggest there was a gap in the vantage point watch maps. Simply put, all that Dr Reed had failed to do was put together maps that had been sent to him as a pair. That is why the maps did not have dates and times on because they were supposed to be paired with another map which had the necessary information. A second criticism was that Dr Reed suggested that because the vantage point watches had recorded birds' outwith the 180 degree view of the wind farm, it meant that the observer was not following the guidance. SNH 2005 confirms that scan of arc relates to the collision risk area[133]. It is restricted to a maximum 180 degrees. The arcs of view in relation to collision risk at each of the viewpoints are well below the 180 degree maximum in the SNH guidance[134]. The guidance does not preclude the recording of species outwith this arc. This provides relevant information on the overall bird usage of the wider site.

113. In addition, Dr Reed criticised the fact that there did not appear to be a 2km cut off[135]. Again Dr Percival was able to identify that in terms of the ES a conservative approach had been adopted where the 2km cut off in terms of sightings had not been removed. In his sensitivity testing[136], he removed all sightings beyond 2km. All that does is reduce the number of birds in the collision risk and reduce the resulting numbers.

Length of Watches

114. Dr Reed also criticised the length of individual viewpoint watches. Again part of this related to the initial reconnaissance surveys. Dr Percival identified the extent of the watches in excess of 3 hours and has undertaken a statistical analysis of them. They occurred at times of year when in terms of the target species only red kite were using the site. His statistical analysis suggests that in respect of this assessment, acuity issues have not arisen as a result of the length of the watches. As Dr Percival identified, the site in question and the viewpoints were relatively straightforward. In addition the levels of activity were relatively limited. Furthermore, this only affected about 10% of the vantage point watch time.

115. Dr Reed was also critical of the fact that on four occasions vantage point watches were taken at the same time as walk over surveys were being undertaken. It is important in that context to reflect on the size of the site in question. The appellants have not drawn a red line around the turbines and described that as the development

[133] CD 8.76, par. 2 of appendix 1

[134] Figure 1 of CD 8.89

[135] CD8.76, par. 2 of appendix 1

[136] CD8.89

site. The development site is larger than that normally encompassed within an application and therefore there are large areas where simultaneous activities could occur without disturbance. In particular, Dr Reed raised an instance of one occasion in October 2008 relating to golden plover. He indicated that he was concerned that a walk over survey may have disturbed golden plover and thus increased flight activity. This was specifically checked and no disturbance had occurred and in fact the day after, when no vantage point walk over surveys were conducted, the level of flight activity was higher.

116. The consideration of potential disturbance also has to give consideration to the behaviour of the species concerned. It is clear that if one is surveying a remote site where bird populations are highly susceptible to disturbance then the risk of altering the data might be higher. As Dr Percival pointed out, neither red kite nor golden plover are the types of birds that would be significantly disturbed. If there was disturbance it would be to increase the flight rate not reduce it. It should also be noted that in the context of golden plover, there are over two years of data available from the winter surveys.

117. In addition to these criticisms, Dr Reed lodged the 2013 guidance[137] on the morning of the ornithology session, but an assessment process cannot prejudge future changes in guidance. There are differences between the 2005 guidance[138] and the August 2013 guidance in relation to the recommended vantage surveys for certain species such as golden plover. In 2005, passage season watches were only suggested for geese and waterfowl. In the new guidance there is a recommendation that in respect of golden plover there should also be vantage watches for the full passage period[139].

118. As identified above we have two seasons of survey data covering the passage of autumn and spring. This was a matter that was discussed with CCW and it was satisfied that it had sufficient information to cover the passage periods. Again the guidance on the duration of vantage point watches is phrased in guidance - "we recommend that"[140]. In addition the guidance goes on to provide for a settling in period. This was not previously provided for but as Dr Percival advised, the first hour of the vantage point watches actually noted higher red kite activity than the longer periods.

119. Insofar as the Stacain decision[141] is concerned, it is important to have a full understanding as to the issues[142]. This decision related to a proposal to construct a wind farm within the Glen Etive and Glen Fyne Special Protection Area (SPA) which

[137] Document CCC24e

[138] CD8.76

[139] Document CCC24e, table 1.4 on page 32

[140] Document CCC24e, par. 3.8.7

[141] CD8.33 and in particular paragraphs 8.40 and 8.53, sub-paragraph 11

[142] These are set out in paragraphs 5.25 to 5.44 of CD8.33

have been designated in relation to 19 golden eagle territories. The tests applicable in such a situation are very high and are set out in the summary of the Waddenzee decision[143]. The burden is on the applicant to demonstrate that the adverse effect on integrity would not occur. The summary of the case explains the extreme circumstances. A very limited number of surveys had been undertaken over a very short period of time and there had been a limited spread of survey work. In addition the Inquiry had information from an alternative survey which had been undertaken over a wider range of periods. This disclosed that potential prey species were utilising the application site.

120. The circumstances relating to the surveys at Stacain bear no relationship to the issues in the context of this application. In addition, in terms of disturbance, it is clear that golden eagles are highly sensitive to disturbance in such a remote environment. However, the decision does identify that Dr Reed is wrong merely just to assert that there are certain consequences of, for example, a watch exceeding 3 hours. It is important to consider the species involved, the nature of the site and the other evidence available. He has simply chosen not to undertake that exercise because of the manner in which he chooses to analyse matters. At no stage does Dr Reed analyse whether any of the criticisms he makes would in practice undermine the assessment which has been undertaken.

121. The Rule 6 party during cross examination sought to criticise the ES for not producing collision risk assessments for other raptor species. The information in the ES provides a full description of the extent to which raptor species were identified during the vantage point watches. This includes whether any time was in the collision risk zone. There appeared to be a suggestion during cross examination of Dr Percival about the suitability of the site for hen harrier. Hen harrier were only seen during the winter survey when the population is dispersed. There was absolutely no evidence to suggest any substantive use of the site by hen harrier and the suggestion that it could have implications for future hen harrier breeding populations has no basis in evidence.

122. A further point that was raised during the Inquiry was the way in which the ES had dealt with the 1% threshold. It is clear that the author of the ES was confused on the issue. All environmental statements will contain certain errors but in the context of this particular error, it is clear that the author contradicted herself within the text. For example, in respect of the ES there is a statement about the 1% threshold[144]. Immediately after it there is the quote from Dr Percival that effects below 1% represent a negligible magnitude of impact. This is repeated in the SEI[145]. However, in the ultimate assessment, it is clear that the 1% threshold has not been used in an as if anything above it represented a significant decline in the population way. No document before the Inquiry suggests that 1% is a threshold for population decline and Dr Reed was unable to produce any.

[143] CD8.33, par. 5.26

[144] CD1.4, 7.9.35 (underneath table 7.14)

[145] CD1.5, Volume II, Appendix E table 5.1 page 18

123. The extract from the SNH website[146] (lodged on the morning of the ornithology session) sets out a position statement in relation to use of such thresholds in the context of SPAs. That is correct in the context of an SPA because it is the particular population within the SPA which requires to be assessed in terms of whether or not the proposal would adversely affect the integrity of the population. It should be noted that these comments are restricted to their utilisation in relation to European designated sites. It does not suggest that the use of such thresholds is not applicable in the context of considering general populations[147]. It is clear that the ES and the work of Dr Percival has had full regard to the individual species and potential impacts on them.

Specific Ornithological Issues

124. Turning to the specific ornithological issues raised in the Statement of Case and reflected in the agreed SoCG[148].

Displacement of Curlew

125. The ES evaluated the potential displacement of breeding curlew arising from the proposed development. Information relating to curlew included bird records for the site[149]. It had also been reported that curlew, whilst being present on the site, had not been successful in breeding in the years prior to the assessment. Further evidence was gained by carrying out a Brown and Shepherd survey[150]. This was followed up by a further survey in 2010[151]. There appeared to be attempts at curlew nesting but these were unsuccessful. Dr Reed's survey, conducted earlier this year, was also consistent with these findings. Foxes were observed on all 4 days of the 2010 wading bird breeding survey and in particular the description of the fox behaviour was that they were seen foraging and searching systematically across the area.

126. The Council's case in relation to curlew appeared to be entirely predicated on a single study known as the Pearce-Higgins 2009 study[152]. That attempted to use control sites and compare it with densities of upland birds at wind farm sites[153]. Fundamental to this exercise is the extent to which control sites and the wind farm sites are comparable. This particular study threw up some anomalies in identifying displacement or the reduction in density. In respect of curlew it appeared to be greater at 800m than 600m. This should perhaps have raised concerns about the methodology which had been deployed. It is interesting to see how Pearce-Higgins

[146] Document CCC24d

[147] see CD8.61

[148] CD1.14 & CD1.20

[149] see par. 7.7.2 to 7.7.4 of volume II of CD1.14

[150] see par. 7.7.19 and figure 7.10 of CD1.14

[151] figure 7.15 of CD1.14

[152] CD8.56

[153] CD8.55

has changed his position regarding golden plover which were also encompassed in the study in 2009. Pearce-Higgins had previously raised concerns about the impact of wind farms on breeding golden plover (not relevant to this site). Subsequent to that two further papers have been published[154] and these directly contradict the 2009 study relating to golden plover. The conclusions in relation to golden plover are consistent with the field observations contained in two other studies[155].

127. The study relied so heavily on by the Council, both in the ornithology and ecology Proofs[156], has, therefore, been demonstrated to be wrong. Furthermore, when it comes to curlew, there are again further direct field evaluations which run counter to the findings of the 2009 study[157]. It is clear that the Council has sought to overstate the disturbance which is likely to arise in respect of curlew. This was no doubt to try and reduce the value of the potential mitigation offered by some of the habitat improvements which might be utilised by curlew. For example, the wader scrapes are located over 500m from the nearest turbine. This is outwith the disturbance distances reported by Hotker[158].

128. Dr Reed was also extremely reluctant to acknowledge that fox predation could be a factor in the unsuccessful breeding of curlew within the application site. This was despite the clear evidence from the ecologists of the extent of fox usage occurring during the breeding season. The argument about the fact that the foxes could just be there for the carrion was not supported by the field observations as to how the foxes were covering the ground or behaving at the time. It is clear that fox predation is potentially one of the most significant factors in respect of the failure of curlew breeding.

129. A recent study published in August 2013[159] identified that there was a strong correlation between woodland and fox abundance. Furthermore, where predation was controlled, curlew numbers were significantly higher. Under the heading "discussion" four pages from the end of the document, the conclusion is that increased fox predation is likely to be a key issue in respect of breeding success. This is confirmed by other studies which have demonstrated the importance of predator control to ground nesting birds such as curlew[160]. Dr Reed was given every opportunity to accept that predation control could potentially be beneficial to curlew nesting within the study area. He refused to acknowledge that there was even a potential benefit deriving from predator control, demonstrating his unreasonableness.

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[154] CD8.17 and CD 8.57

[155] CD8.23 and CD 8.39

[156] Documents CCC6 and CCC7

[157] see for example CD 8.19 (duplicated in CD8.101 and CD 8.99)). This was also confirmed by the data supplied by Dr H Hotker (CD 39, page 11)

[158] CD8.39, Table 3 page 11

[159] CD8.94

[160] CD8.27

130. It is clear that the ES has appropriately assessed the potential impact on curlew disturbance. The Habitat Management Plan (HMP)[161] offers real and practical mitigation benefits in respect of habitat management and predator control.

Golden Plover

131. Golden plover do not breed on the site but they were identified during the winter surveys both in respect of walkover and collision risk. Their locations in winter 2008-2009 were south of the public road on the southern end of Rhos-y-Corn and a section close to the proposed turbines and north east of Crug-y-Biswal[162]. For 2009/10 similar locations were identified[163]. In terms of disturbance it is clear that the golden plover use the wider study area and whilst they also use the turbine locations, this use is far from exclusive. The key impact in relation to golden plover is the collision risk. This has been assessed in both the ES and the SEI of March 2012.

132. Dr Percival explained that he had undertaken a further sensitivity analysis of the collision risk[164]. In the context of this analysis he had used the random collision risk model as advocated for raptors and waders[165]. The sensitivity analysis confirms that the results expressed in the ES are very robust. The purpose of the sensitivity study produced by Dr Percival is not to replace the evidence of the ES but to put it in a proper context. In that context the output of the collision risk identified in the ES and the supplemental environmental information represents a worst case assessment. In addition, in his sensitivity study, Dr Percival has reduced the viewpoint collection of data to 2km from each viewpoint. This again reduces collision risk and demonstrates that the ES was undertaken adopting a very conservative criteria.

133. Furthermore, it is appropriate to consider the likely impacts arising from the outputs of the collision risk model. As Dr Percival highlighted, collision avoidance rates for geese have recently been increased further by SNH because of the results of monitoring[166]. Golden plover do exhibit a response to turbines and this is reflected in the partial disturbance from wind turbines[167]. This discloses that there is a displacement of non-breeding golden plover and the author identifies that geese, ducks and waders generally avoided turbines. In contrast he also identified certain species which did not seem to display these behaviours and as a consequence were subject to higher collision risk.

[161] CD 1.5, Volume II Appendix C

[162] CD1.4, Volume III figure 7.8

[163] CD1.5, Volume II Appendix E figure 5

[164] CD 8.89

[165] see CD8.2, page 2

[166] see CD8.95

[167] see in particular CD 8.39, page 11, and table 3

134. The starting point is therefore that golden plovers are likely to behave in a similar manner to geese and are therefore likely to be subject to a reduced collision risk. This has also been borne out by the field evaluations carried out at Blood Hill and Red House[168]. These again were matters which Dr Reed refused to acknowledge in cross examination. In addition there is no direct evidence of any significant rate of golden plover collisions occurring at any wind farms. This is a matter which can quite properly be taken into account in assessing the likelihood of the ultimate collision risks occurring.

135. There was also a dispute as to the potential population of the Welsh over wintering migratory numbers. The Welsh population forms a component part of the GB over wintering population. The last national census of over wintering golden plover in Great Britain estimated that there were 400,000 individuals[169]. Dr Percival sets out how he reaches the figure of 44,000 contained in his Proof[170].

136. Dr Reed's figure contained in his Proof is 22,680[171] and this is derived from the number of golden plover recorded in January 1977 (18,000 for Wales)[172]. He then applies the 26% long term increase[173]. This indexation applies for the period of 84/85 to 09/10. It is clear that Dr Reed's indexation does not take into account the time period from 1977 to 84/85. Applying the appropriate indexation for this period would further narrow the figures between Dr Percival and Dr Reed. It should be noted that the 'Webs alert' data referred to by Dr Reed only provides information in relation to wetland areas and there are significant numbers of over wintering golden plover not located within them.

137. In addition, Dr Percival identified that the annual golden plover mortality has been estimated at 27% rather than the 22% used in the ES[174]. Dr Reed also suggested that there should be an increase in the collision time to take account of night time feeding. Dr Percival has monitored golden plover and does not think this was appropriate. In particular in respect of the collision risk in respect of the appeal proposals, over 80% of the collision risk identified in the ES arises from two days survey work in October 2008 relating to a large flock of golden plover which flew within the collision risk zone. He advised that this type of behaviour did not happen at night and this would suggest that there is no justification for an increase to be applied.

138. In conclusion the sensitivity study undertaken by Dr Percival and the information submitted by Dr Reed in his Proof demonstrate that the assessment undertaken in the

[168] CD8.62 and CD8.63

[169] see CD8.11

[170] CD8.89, page 2 paragraph 7, and CD8.53

[171] Document CCC6 at page 65

[172] CD8.26

[173] identified by CD8.21

[174] CD8.89, page 3

original ES and the SEI are highly conservative, both in relation to the overall population figures for over wintering golden plover and also in relation to the golden plover mortality rate. Both these further illustrate that the output of the ES is highly conservative and can be considered robust in the extreme. Dr Reed has not presented any evidence which in any way undermines the results of the ES collision risk for golden plover.

139. In respect of displacement of over wintering golden plover, it is clear from the distribution on the site that they have the potential to use an extensive area. Whilst there is some use of the turbine area, the majority of the use is located beyond it.

140. There was also a debate at the Inquiry about the benefits of the HMP in relation to golden plover. The argument of the Council appeared to be that golden plover only use large fields and that cultivated land was not their preferred option. It is fully recognised that grassland makes up most of the feeding but it should be acknowledged that cultivated land is also a source recognised in all the references provided.

141. A paper on 'The distribution and habitats of wintering golden plovers in Britain' provides an interesting analysis of over wintering golden plover [175]. This demonstrates that golden plover will roost and feed in a wide variety of habitats. It also recognises that cultivated land does form a location over which they feed at various times of the winter. This suggests that seeking to cultivate the land adjacent to Mynydd Llanfihangel Rhos-y-Corn could potentially provide benefit. It would, however, have to be monitored to see whether the provision of appropriate cultivated land in that location is of benefit. It is also clear that providing improved grassland opportunity would be of potential benefit. The appropriate cultivation of agricultural land for both these purposes would have wider benefits for bird biodiversity and that was acknowledged by Ms Carmichael.

Red Kites

142. The ES sets out the various flight rates of red kite through the collision risk zone in the 3 periods recorded[176]. This was supplemented by a further season's data in the 2012 SEI[177]. Dr Percival provided an updated sensitivity assessment[178]. In particular he updates the Welsh population together with updated survival rates. Dr Percival cites the basis for his survival rates as being 'The Red Kite' by Ian Carter[179]. This discloses that the survival rates and the age of first breeding are different in Wales as compared to other parts of the UK and in particular England.

[175] CD8.26, page 181

[176] CD1.14, tables 7.4, 7.5 and 7.6

[177] CD1.15, table 3.2

[178] CD8.89

[179] Document RES7, Appendix 2

143. Dr Reed suggested the application of the British Trust for Ornithology (BTO) GB figures as opposed to the Welsh specific data[180]. However the utilisation of the RES UK & Ireland Ltd. (RES) data is in fact more conservative. The RES juvenile death rate is 34% as opposed to the 50% in the BTO. Similarly the adult survival rate in Wales is assessed to be higher than the general GB mortalities (81% as opposed to 61% BTO). Dr Reed indicated that he could not initially understand how the RES figures were more conservative than the BTO in that respect. This just demonstrated Dr Reed's lack of understanding of collision risk and the calculation of survival rates being critical to the overall calculation.

144. Again the information produced in the sensitivity analysis and Dr Reed's evidence demonstrated that the background mortality of 17.8% used in the ES was conservative in the extreme. Again in that context the results produced in the ES are very robust to the extent of overstating the likely impacts.

145. A couple of documents were lodged regarding red kite mortality. 'Natural Research Information Note 3'[181] confirms that the likely 98% avoidance risk is probably conservative and this is not in any way refuted by the other presentation relating to monitoring at the Braes of Doune[182]. The Braes of Doune wind farm is located close to a release location for red kites. It was predicted that there would be 1.7 collisions per year and 3 recorded collisions occurred over a 4.5 year period.

146. Again all this information confirms that the ES findings are robust and can be relied upon. In addition, it is proposed that there should be a scheme for carcass removal in proximity to the turbines. The suggestion for this mitigation arose from the number of red kite feeding in proximity to the turbine envelope on carcasses which had yet to be recovered. It is anticipated that the collision risk would reduce further through this mitigation.

Conclusion

147. The totality of the evidence demonstrates that the ES has used extremely robust and conservative assumptions when it comes to the potential impacts on bird species. Against that background, there are no impacts which would justify the refusal of the application on ornithological grounds.

148. The Council has also made reference to the amendment to the *Conversation of Habitats and Species Regulations 2010*[183] by the *Conservation of Habitats and Species (Amendment) Regulations 2012*. The amendment introduces a new Regulation 9A. Subparagraph 3 sets out the objective of the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United Kingdom. The Welsh Ministers will be obliged after consulting NRW to provide

[180] Document CCC6, par. 6.4 page 63

[181] CD8.83

[182] CD8.82

[183] CD7.21

guidance to help identify whether the diversity and area for wild birds is sufficient (Regulation 9A(10)). In considering the measures required to secure or contribute to the objective, appropriate account must be taken of economic and recreational requirements (Regulation 9A(7)).

149. The implementation of the duties can only meaningfully be informed once the relevant guidance has been issued. In particular, without a detailed understanding and assessment of "sufficiency" it would be hard to apply the objective. It is however important to note that upkeep, management and creation of habitat is also encompassed within the objective. It is also of note that the amendments also introduce Regulation 129A which obliges the Welsh Ministers to encourage research and scientific work. The heathland research projects forming part of the HMP would be encompassed within such work.

Ecology

150. The Council ran a number of arguments on ecological grounds. The first of these related to the status of the site. The evidence here appeared to be primarily provided in order to try and run an argument that the proposal would run counter to policy EN3 of the UDP. It has been acknowledged in the ES that the habitats involved are of County importance and that bird assemblage in total will also be of County importance. The issue is the effect that the proposals would have on this resource. The ES has taken into account the various biodiversity values applicable to both the habitat and species located within the site. This is reflected in the assessments undertaken in terms of the ES and SEI. This enables the impacts of the appeal proposals to be considered against relevant planning policy and the duty to have regard to the conservation of biodiversity in terms of Section 40 of the *Natural Environment and Rural Communities Act 2006*. It has already been noted that there are opportunities to improve the biodiversity through the implementation of the HMP.

151. In respect of the habitat, there is extensive evidence relating to the current state of the commons. The Council's 'Vegetation Survey and Grazing Assessment'[184] and Mr Davies evidence confirms that the commons are not overgrazed. In addition, the phase 1 habitat survey undertaken as part of the ES[185] has been confirmed through the work of Mr Averis in his vegetation survey[186]. It is clear from the history of the commons that back in 2003/4 the commons were overgrazed and subject to extensive burning. The level of impact was such that the Welsh Assembly Government's Agriculture and Rural Affairs Department (ARAD) had to step in[187]. Mr Davies explained in evidence how agricultural support mechanisms had influenced grazing patterns on commons. His evidence was entirely supported by the material submitted by the Graziers Association and the subsequent surveys.

[184] CD7.16

[185] CD1.4, Volume III fig. 6.2

[186] CD7.15

[187] CD7.16, page 5

152. The common has also recently been subject to cutting/mowing by a range of graziers. There is no evidence to suggest that any of this has been informed by ecological assessments which support the cutting at the various locations. It very much appears that the cutting was associated with individual land holdings. Mr Averis in his report[188] assumed that the cutting had been done to produce growth for grazing. He expressed concerns about the current cutting regime to the extent that he stated "*However, in my opinion it seems unlikely to be beneficial to the ecology of the heath and, as with burning, will suppress the natural process of the development of vegetation over time, leading to unnatural uniformity of vegetation structure and a lack of very mature heather*". This concern was also backed up by the evidence of Mr Davies who advised that if cutting was not undertaken appropriately, the likely result would be an increase in unpalatable grasses to the long term disbenefit of graziers and the ecological value of the commons.

153. It is clear that the future management of the common is critical to the further improvement of its ecological status and this is a conclusion reached by Mr Averis[189]. The granting of the appeal would provide a mechanism for long term management of the commons together with funding to achieve a long term management system. The alternative would be the continued ad hoc management where burning may be replaced by ad hoc cutting without any structure to it.

154. The response of the Council to the HMP is that there is a risk that it cannot be delivered, but reference is made to the appellants' legal submission in respect of the rights that the landlord has in respect of the management of commons[190]. The appropriate management of the common with an appropriate cutting and management regime would not conflict with the rights of grazing. As Mr Davies illustrated, the effective cutting of the common would improve the quality of grazing as opposed to being detrimental to the interests of the graziers. The key issue was ensuring that the areas that were managed were managed for ecological reasons not for localised improvement of grazing. The concerns expressed by the Council in this respect are wrong because they proceed on a misinterpretation of the rights of the landlord in respect of the common.

155. The second reason why the Council believe that the management regime could not be guaranteed is that one could not guarantee the behaviour of those holding grazing rights. That is clearly a position which could occur, albeit that this could happen with or without the scheme. The evidence of Mr Davies is that there are restraints on the way in which commoners can exercise their rights. In particular, in the event that certain grazing practices were adopted, they would breach the Code of Practice of farming which would have implications for cross compliance and the payment of agricultural support[191]. All the evidence suggests that these support mechanisms are currently reducing grazing pressure and, on the balance of probabilities, are likely to continue.

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[188] CD7.15, page 13

[189] CD7.15, in the paragraph above acknowledgements on page 14

[190] Document RES38

[191] see CD6.4, section 4.1.8

156. A further issue that the Council put was that in order for the habitat management to be implemented it would be necessary for the appellants to have signed up all the graziers to the management regime. Again this is not a correct interpretation. Currently the Grazing Association oppose the development but none of the witnesses on behalf of the Grazing Association have indicated that they would not participate in any future management regime. Indeed, in terms of the preliminary public consultation, a number of active graziers indicated that they would wish to participate.

157. It is clear that the HMP would provide funding for a range of management activities to be undertaken on the common. Many of the graziers would have the capability of being parties who could assist in implementation through being paid to undertake work, for example, appropriate cutting and carcass collection. In addition, as Mr Davies indicated, the appropriate management of the common is likely to provide further opportunities for graziers to be eligible for enhanced agricultural support.

158. Many of the organisations responding to the appeal proposals recognised the benefits that a structured management regime would bring to the common. This is reflected in the responses received from CCW, Royal Society for the Protection of Birds (RSPB) and comments by Mr Averis. The appeal proposals offer the only real solution for the future structured management of the common. The Council's position has been unduly pessimistic and has failed to have regard to the opportunities that exist through the HMP for enhanced management of the commons. It is clear from a number of policy documents that such management is likely to be critical to the future enhancement of upland areas. This is reflected in the biodiversity plan produced at the Inquiry by the Council where the importance of management is clearly identified.

159. CCW's 'Framework for SSSIs achieving favourable condition in Welsh uplands'[192] is an important national document which sets out the challenges which are faced in improving the condition of upland areas in Wales. It recognises the pressures that agriculture has placed on many of the upland areas and the adverse effects that have resulted from certain agricultural practices. The key conclusion of the framework[193] is that in order to achieve a favourable condition, strategic management is required. Ms Carmichael acknowledged in her evidence[194] that the approach of the appellants may well accord with this key document.

160. Mr Davies also advised that he has extensive experience in dealing with grazing issues on commons and in particular those related to wind farm development. His experience was that once consent had been granted it has not been difficult to agree and work with Graziers Associations in the implementation of development.

[192] CD7.33

[193] CD7.33, sections 4.4 and 4.8.

[194] Document CCC10, paragraph RES/CR/1/714

Conclusion

161. Strategic management of the commons is something which is strongly supported by policy and guidance documents in respect of upland heaths. The HMP affords an opportunity for that to occur. The implementation of the plan would positively enhance the prospects of the graziers being eligible for agricultural grants which related to environmental criteria. These factors also suggest that on the balance of probabilities the strategic management of the common would be in both the interests of the landowner and also those with rights on the common. In addition, whilst there is no control over the exercise of grazing rights, the Code of Practice is likely to offer restraint on grazing practices which could interfere with the implementation of the HMP. CCW (now NRW) and RSPB actively support the strategic management of the commons as outlined in the HMP. It is also the professional view of Mr Averis, the heath specialist who undertook the updated survey.

162. Ms Carmichael raised a new argument about interconnectivity and relationship with the European sites. In cross examination she conceded that none of the reasons for the SPA or Special Area of Conservation (SAC) designations would come within this alleged argument. It solely arose from a research paper published by CCW[195]. It identified that the concept would require further work "on prioritisation mapping"[196] and Mr Robinson deals with this matter[197]. This issue has no substance and does not weigh against the granting of the permission. Indeed as Mr Robinson identifies, the implementation of the HMP would potentially enhance connectivity. It also did not form part of the Council's original determination of the application. It appeared that the only answer that Ms Carmichael could give to the issue of connectivity related to golden plover. As was extensively discussed during the Inquiry, golden plover are highly mobile throughout the over wintering period. The argument about connectivity in respect of this species has not been established in any substantive evidence before the Inquiry.

Access Tracks

163. Before going on to consider the implication of the construction of infrastructure, it is important to understand the sensitivity of the habitat. It is recognised that parts of the development site include areas of wet heath, but the development only occurs on a very small percentage of the overall habitat in question. Ms Carmichael has raised concerns about development on wet heath and the sensitivity of that habitat to this type of development. This is a matter which has been considered in some detail in respect of other Inquiries in respect of upland areas.

164. For example, in relation to the Mynydd-y-Betws[198] issues relating to the sensitivity of particular habitats were discussed in detail. The Inspector's report discusses the

[195] CD7.5

[196] CD7.5, section 5.3

[197] Document RES10, section 3

[198] CD9.2

concerns that CCW had in relation to blanket bog and the complexities involved in carrying out development on that type of habitat[199]. Insofar as the sensitivity of upland heath to development is concerned, the Inspector goes on to state: "The effect on areas of upland heath affected by turbines 11, 13, 14, 15 and 16 and the access tracks would be much less significant than in areas of wet habitats."[200]

165. It is important to bear that type of comment in mind given the approach the Council has adopted to this issue. One of the issues that the Council has highlighted is the extent of habitat loss that would result from access tracks and the ability to restore the temporary disturbance arising from their construction. Ms Carmichael admitted that she had no experience in dealing with wind farm access tracks in any upland area. In contrast Mr Robinson has very extensive experience in dealing with the construction of access tracks in upland areas. He has worked on upland sites throughout Great Britain including Wales. In cross examination it was put to him that some of his schemes were merely forestry schemes and therefore they were not directly relevant.

166. This was particularly put to him in respect of the Rothes Wind Farm. An updated ecologist's report[201] demonstrates the considerable success in respect of habitat restoration at that site. At the back of the document the plan illustrates the various upland habitats which are encompassed within the development footprint. This discloses that the vast majority of turbines are located on wet dwarf shrub heath and that the access tracks also pass through this habitat. This illustrates that Mr Robinson has direct experience of dealing with the impact of wind farm infrastructure on wetland heath and weight should be given to the evidence that he has provided. It also demonstrates that on many other sites there is a complex mosaic of upland habitats which have to be taken into account. In respect of the Rothes scheme, this includes some of the more sensitive bog habitats referred to in the Mynydd-y-Betws decision.

167. The first issue that was raised was the extent of temporary disturbance. Mr Robinson has very extensive experience having worked on over 100 wind farms. Having reviewed the ES and the HMP, he was of the opinion that the temporary disturbance was likely to have been overstated. As highlighted, Bryn Llywelyn is a relatively straightforward site from a construction perspective with very limited areas of topography which would require complex engineering solutions. Furthermore, the development of the infrastructure in relation to the appeal proposals has had the benefit of a lidar[202] survey which provides more detailed evidence in relation to topography than map based systems. In that context the current design has had the benefit of better information than provided for most wind farm developments at this

[199] CD9.2, Par. 64 and 65

[200] CD9.2, par. 66

[201] CD7.41

[202] A remote sensing technology that measures distance by illuminating a target with a laser and analyzing the reflected light

stage in the planning process. The only way in which a detailed design could be undertaken is if detailed ground investigations had been undertaken. Mr Robinson advised that no wind farm would have that level of detail at this stage of the process. In addition, the site benefits from direct access from the public road as opposed to access tracks having to be taken up a slope. This is of considerable advantage.

168. Mr Robinson, in further consultation with the project engineers, produced the figure of between 10 and 15 ha as to the likely temporary land disturbance. Ms Carmichael questioned this in her rebuttal Proof[203] and a further table[204] was provided to explain the figures. Mr Robinson explained how conservative assumptions had been used and that the overall area assumed for access tracks had been increased by 20% to account for wider areas such as those at the bends. In addition, in terms of the temporary land take, specific provision was made for track shoulders of 2m and a working area for drainage and cable trench of 8m.

169. In his view all these figures provided a conservative assumption with regard to working areas. The response from the Council was that there should be a detailed layout provided to demonstrate that the figures were robust. Simply put, any layout could be subject to criticism if it had not been based on information derived from a detailed site survey. Again however, in terms of the overall process, the consultation responses received from consultees were based on the 24 ha figure. The evidence of Mr Robinson confirms that the ES has been highly conservative in the figures used for the assessment process such that the assessed impact on heathland habitats is also conservative.

170. The second argument raised on behalf of the Council was how effective the restoration of the access tracks would be given the grazing on the common. This was a matter which had been responded to in detail by Mr Robinson[205]. There is now considerable experience in developing wind farms in upland areas in the UK. As a consequence of such experience, SNH has produced guidance in relation to the construction of wind farms and access tracks[206]. These provide illustrations of how ecological impacts associated with the construction of wind farms can be minimised through appropriate design and construction techniques and this is a key part of the mitigation process.

171. The first one discusses the process whereby ecological impacts can be minimised through design (this has already occurred in the context of the appeal proposals in avoiding limited bog habitats and other habitats of higher sensitivity on the site) (also see letter from CCW dated 8 October 2012[207]). For each aspect of development the guidance provides advice as to how ecological impacts can be reduced through the

[203] Document CCC10

[204] Document RES26

[205] Documents RES9 and RES10, section 2

[206] CD7.25 and CD7.44

[207] Document CCC24f

detailed design process, the identification of appropriate construction methods and finally through implementation during the construction phase. Essential to the delivery of the ecological mitigation is the submission of appropriate construction method statements which are informed by detailed ground investigations. These set out the means by which the developer proposes to implement the development having regard to the particular aspects and sensitivities of the site.

172. The issue of verge reinstatement is specifically covered[208]. It also includes the concept of the employment of an Ecological Clerk of Works (ECoW) and the role that they play in ensuring that the environmental measures identified in the construction method statement are delivered during construction. Mr Robinson has experience in working as an ECoW and the framework which it provides. This ensures that the practical measures identified to mitigate the potential impacts are actually delivered at the time of construction. The guidance also goes on to deliver specific guidance in respect of each of the phases of development including access tracks and other infrastructure.

173. The second of the SNH documents provides advice in relation to constructing tracks in uplands, with development in heathland being specifically discussed[209]. It also provides specific advice in relation to drainage, detailed track design, track enhancement and restoration, and vegetation. It is important to understand that the purpose of the guidance is to identify specific issues that arise in respect of development in upland areas. As with many guidance documents, it first of all identifies the risks and thereafter goes on to deal with how the matters can be dealt with in terms of construction techniques and mitigation deployed. It deals with both the methods required for storage and the practical measures required to implement a successful restoration of disturbed ground. The two key themes which emerge are that the higher and more exposed the location, the longer it will take for vegetation to become fully established. It is clear that the appeal proposals are not located at a high altitude in an upland context. Indeed, many parts of the appeal proposal lie on the very borderline between improved agricultural ground and an upland area.

174. Mr Robinson has extensive experience in implementing construction of upland tracks and was able to provide examples of how successful track reinstatement had been. It is clear that for the restoration to be successful the original storage of material has to be undertaken in a structured and co-ordinated manner. Furthermore, the restoration should take place as quickly as possible after the disturbance has occurred. Mr Robinson was able to give advice as to how construction methods were developing which enabled swift restoration to occur. For example, previous practice had been to construct the access tracks and thereafter restore them. Thereafter the cable trenches would be excavated in the area which had previously been subject to reinstatement. He advised that that practice had now developed whereby the cable trenching was undertaken at the same time as the track construction through the utilisation of ducts. This enabled the restoration to occur in one phase and to occur much more quickly in the construction process.

[208] CD7.25, pages 38 and 39

[209] CD7.44, page 55, section 4.9, section 5.1, section 6 and page 117 respectively

175. A further issue which was raised in relation to track reinstatement was the extent that the reinstatement would be successful given the grazing pressure on the common. In that respect Mr Robinson's experience was that track reinstatement areas were not fenced off and his experience included numerous sites where sheep and deer grazing occurred. His opinion was that the key issue in respect of restoration and re-vegetation was the quality of the original restoration. In particular, if the restoration is poorly undertaken it results in opportunistic grasses occurring. That in turn would attract grazing[210]. He also illustrated that there is a fundamental distinction between track reinstatement and the establishment of new heathland areas. This was a matter which again Mr Robinson had direct experience of.

176. Ms Carmichael referred to a number of photographs where grasses had formed adjacent to the construction of tracks[211]. There was no evidence in respect of any of the cases that there had been any attempt at a restoration in the construction process. In contrast Mr Robinson produced examples of track reinstatement that had occurred in locations where grazing had occurred and which had been very effective.

177. Furthermore, it is clear from the evidence within the surveys of the common[212] and indeed the commoners grazing record[213] that the central parts of the commons are not the favoured locations for hefted stock where the grazing pressures are higher. There was no indication that the central parts of Mynydd Llanllwni common, where the majority of the wet heath is located, is being subject to any great grazing pressure. In addition, there did not appear to be any evidence to suggest that the cut areas were being overgrazed.

178. In the event that there are localised issues relating to reinstatement, these can be subject to temporary fencing through a further application under s.38 of the *Commons Act 2006*. The Council's position in relation to the reinstatement has been overstated and did not fully understand the importance of the quality of the initial restoration in the first place. It focused on one aspect of the restoration without an understanding of the importance of the restoration process and techniques.

Habitat Management Plan

179. The Council have been critical of the HMP and have been overtly negative from the outset. Its evidence fails to acknowledge any benefits deriving from the implementation of the measures. The overall management of the common has already been dealt with, but there are other benefits which would potentially arise from the implementation of the HMP which include:

(1) The increase in the size of the commons resulting from the inclusion of exchange land.

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[210] see CD7.44, paragraph 119

[211] Document CCC5, Appendix 6

[212] CD7.15 and CD7.16

[213] Document GA1

(2) The provision of predator control to benefit ground nesting birds.

(3) The removal of carcasses.

(4) The creation of wader scrapes. The Council again did not appear to even acknowledge that there were limited wetland areas on the common and that this would add to the range of habitats available.

(5) The heathland research projects. Again the Council was negative towards the potential for the success of the heathland restoration projects. At this stage in the process they have been designed as outline proposals. The importance of scientific research into heathland creation is illustrated in the approaches outlined in CCW's 'Framework for SSSIs achieving favourable condition in Welsh uplands'[214]. The document illustrates the extent to which agriculture and grazing has been a key factor in the removal and reduction of areas of upland heath. The ability to understand and potentially create heathland habitats on such land is important in considering the ability to extend heathland habitats. In that context all the Council does is to put forward a negative position on the potential for a successful heathland restoration project.

However, it is inevitable that where one is trying to re-establish heathland from ground that has been changed from heathland to agriculture, there will be challenges. That is the whole purpose of the project. The HMP is in draft form at the current time and it is anticipated that further work would have to be undertaken to develop a finalised plan for the heathland restoration project. This would include detailed investigations of the ground conditions and the measures required to give the project every chance of success. It involves a substantial expenditure and would be developed further in consultation with both the Council and other parties such as NRW if consent were to be granted.

'Guidance for the Selection of Wildlife Sites Wales'[215] provides guidance for the creation of wildlife sites in Wales and is linked to biodiversity and other objectives. It provides national heathland targets disaggregated to Local Biodiversity Action Plan (LBAP) areas[216]. This illustrates that in relation to Carmarthenshire a maintenance target of 2,400 was set against the existing area of 2,500. It should be noted that in other areas of the country the maintenance target is actually higher than the existing area. This reflects the CCW framework document referred to above with priority being given to improved management of key upland areas designated as Sites of Special Scientific Interest (SSSIs) within Wales.

Part of that process is to try and increase the area of habitat whilst also improving condition. This usefully illustrates the importance of heathland creation in biodiversity terms. It is always going to be a challenge but clearly the importance of heathland creation is one which is important to the national strategy relating to upland heaths. In

[214] CD7.33

[215] CD7.4

[216] CD7.4, page 166

that regard it is evident that the heathland trial plots are potentially of significant benefit and interest not only to the mitigation associated with Bryn Llywelyn but also to the wider opportunities for good practice to influence management objectives within the wider Welsh uplands.

(6) In relation to management of agricultural fields, Ms Carmichael acknowledged in cross examination that there would be biodiversity benefits for farm birds but there obviously remains a dispute as to the potential value for curlew and golden plover. It is clear from the walk over surveys that the farmland adjacent to the commons supports a wide variety of bird species. Ms Carmichael was keen from her early evidence to suggest the importance of the overall biodiversity of the site and its surroundings but did not seem so keen on the issue when it came to implementing beneficial agricultural practices.

180. It is recognised that prior to implementation further development of the HMP would be required. It was interesting to note that in relation to Brechfa Forest West the project could affect up to 1.6% - 2.6% of the Welsh breeding population of nightjar. The HMP at the time of the examination was in draft form and it was acknowledged that further detail would be required in due course[217].

181. The Council's approach to the HMP is one of the owner taking an excess, but provided that it would not interfere with the overall rights of the graziers it could be implemented. Older areas of rank heather are neither good for grazing or biodiversity and there is nothing to prevent the owner from exercising the right to manage to deal with such areas.

Conclusion

182. It is clear that there are differences between the appellants and the Council in relation to ecological issues. Ms Carmichael advised under cross examination, that she had made her concerns relating to the proposal clear to the wide variety of staff at CCW who were engaged in the application process. CCW and RSPB have taken a different view to the Council as to the overall effects and benefits which derive from this scheme. In particular, the letter from CCW dated 8 October 2012[218] identifies the very detailed consideration that has been given by them to the various issues involved. They have taken a different view from the Council in terms of the overall ecological balance in respect of the appeal proposals.

Cultural Heritage

183. The design of the appeal proposals has carefully considered the potential impact that the development would have on cultural heritage assets. From the outset there was a clear understanding of the cultural heritage assets which may be impacted upon. The Dyfed Archaeological Trust and Cadw were consulted at an early stage in the process and site meetings between representatives of the developer and both

[217] see CD 9.13, paragraphs 4.58 and 4.79 to 4.81

[218] Document CCC24f

organisations took place to discuss site layout. The ES[219] discloses that a comprehensive background assessment was undertaken in relation to the site and the assets in question. In addition the appellants commissioned a lidar survey which assisted in the identification of potential unknown cultural heritage assets. The consultation discussions/site meetings produced a strategy for the site to be developed and implemented through the design process. In that regard, guidance was given by Cadw as to the way in which the development could proceed in a manner which would be acceptable to it. Such consultation is advocated by PPW.

184. The differences between the appellants and the Council relate to the potential impact that the appeal proposal would have on the setting of a number of Scheduled Ancient Monuments (SAMs) which date from the Bronze Age. In terms of the setting, Cadw were satisfied that the approach adopted by the appellants was acceptable. In addition, it recognised that the immediate setting of Crug-y-Biswal could be improved by the removal of the Bryn Llywelyn access track. The Dyfed Archaeological Trust (as advisers to the Council) suggested that a distance of 250m to a turbine should be maintained and this has been achieved in the context of the layout. Significant weight should be attached to the process which has been undertaken in relation to the application proposals and clear findings from the relevant consultees.

185. In terms of evidence at the Inquiry, the disagreement related to the effects on the setting of 4 SAMs (CM164 Crug Penheol, CM163 Crugiau Giar, CM075 Crug-y-Biswal and CM073 Crugiau Edryd round barrows). Dr Carter sets out his methodology for assessing impact on setting and thereby cultural significance[220]. In 2011 Cadw published 'Conservation Principles for the Sustainable Management of the Historic Environment in Wales'[221]. This adapted the conservation principles which had been published by English Heritage (EH). No guidance has been published in Wales on the assessment of setting. EH has provided recent guidance on the settings of heritage assets[222]. This takes into account the concept of conservation principles and Dr Carter has used this approach in his assessment.

186. In terms of factual disputes, Dr Carter was of the view that Crug ap Iswal (CM076) was in fact a ring cairn as opposed to a barrow as put forward by Mr Trehy. The scheduling of the asset relates to a ring cairn and, as Dr Carter described, it is located in a different location in terms of the plateau when compared to the other round barrows. This supported his view that it was likely to be a ring cairn as opposed to a barrow. The other difference between the two witnesses was the extent to which the Crugiau Giar round barrows were visible from Crug-y-Biswal. Dr Carter believed there was no such inter visibility whereas Mr Trehy believed there was.

[219] CD1.14, Chapter 8

[220] Document RES15, appendix 3

[221] CD5.1

[222] CD5.4

187. There were also other minor differences between the witnesses regarding the sight lines between monuments. Dr Carter[223] provides his interpretation of the 100m wide corridors. Dr Carter disagreed with the claimed inter visibility between Crugiau Giar and Crug-y-Biswal. In addition Dr Carter has drawn a 100m sight line between Crugiau Edryd and Crugiau Giar. This had not been represented on Mr Trehy's diagram. In terms of the actual figures themselves, Dr Carter's are centred on the centre of the monuments whereas Mr Trehy's appear to be offset. The consequence of this is that Mr Trehy has placed turbines on the edge or within the 100m corridor. Dr Carter's evidence in these matters falls to be preferred as he has correctly identified the inter visibility and correctly identified the relevant corridors.

188. During his evidence Mr Trehy also made a general point about infrastructure and its potential visibility. However, as identified in the landscape and visual section, the gently rolling topography of the site would significantly reduce the extent of such visibility and more major forms of infrastructure such as the sub-station are located down in the valley below where they would not be visible from any of the monuments.

189. In terms of the assessment of setting, one of the major differences between Dr Carter and Mr Trehy is the extent to which turbines interfere with visibility and thereby impact upon the significance of the asset. This is a matter which has been considered at previous Inquiries within the area in relation to similar types of cultural heritage asset[224]. This is also reflected in the EH guidance on setting of heritage assets[225]. This is a key difference in the assessment of the impacts on setting. Dr Carter's assessment falls to be preferred being one which has been supported in respect of previous appeal decisions in relation to monuments of a similar nature in this locality.

190. In Mr Trehy's examination in chief considerable attempt was made to seek to try and have his assessment brought into line with the assessment methodology set out in the 2011 EH document[226]. It is clear that his own assessment evaluation[227] relies on a fairly simplistic magnitude of change related to a fundamental change in the ability to understand and appreciate the heritage asset. This was a methodology which had been used by Terence O'Rourke for a number of years and which did not appear to have been updated to reflect more recent changes in the approach to conservation principles. In particular, the findings of a "fundamental change" in respect of the impacts on the monuments on this site primarily relied upon Mr Trehy's interpretation of the effects that the turbines would have.

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[223] Document RES15, appendix 3, the equivalent figure for Mr Trehy is Document CCC16, appendix 2, figure 4

[224] see CD9.2, par. 58 and CD 9.11, par. 97(both decisions approved of by the relevant Minister)

[225] CD5.4 – see assessment step 3, page 21 - form and appearance of development - visual permeability

[226] CD5.4

[227] Document CCC16, appendix 8

191. A further area which the Council sought to elevate was the extent to which the monuments in question have communal value. This derived from certain local associations with the Peace Cairn and other local associations. This however has to be seen in the context of assessing the cultural significance of the asset in question. Clearly in terms of the communal value, one can get certain values which may be of national importance or others of a more local nature. There will obviously be a range of values in between. This is considered under the Icomos guidance as intangible cultural heritage or associations[228]. It is clear that local associations can be of relevance but those of a local nature would in cultural heritage terms be of a lower sensitivity. It is important to note that the issues raised by the Council were specifically identified by Dr Carter in his assessment of the particular monuments[229]. In his opinion these matters do not increase the cultural significance of the particular assets from a cultural heritage perspective.

Cultural Landscape

192. Mr Trehy also sought to introduce the potential impact on the cultural landscape. In Wales there is of course a non-statutory 'Register of landscapes, parks and gardens of special historic interest in Wales'. The second part of this Register includes areas which may be considered as "outstanding" or "special" historic landscapes. Dr Carter explained that there are such areas designated which include Bronze Age funereal sites.

193. Mr Trehy conceded in cross examination that this section of his Proof had been specifically drafted to coincide with the evidence by Ms Bolger on this matter. It is interesting to note that Ms Bolger does not identify the various barrows as being a key landscape feature and it is evident that they do not strongly influence the landscape.

194. Another feature of the Council's case, which has been repeated more than once, is that the landscape in this area is unchanged and that there is continuity. This is a matter which was considered in the Bryn Llywelyn baseline study which cautions against an assumption that the current landscape is the same as that which pertained when the Bronze Age monuments were erected[230]. Simply put, there is no evidence to support the assertion that this is an entirely unchanged landscape. In particular, the current heathland has been strongly influenced by grazing and other activities.

Conclusions

195. The appellants have worked very closely with the relevant agencies to develop a proposal which would be acceptable in cultural heritage terms. It is clear from the agencies' responses that in respect of the setting of the monuments, these matters have been appropriately and adequately dealt with. The differences that arise between the Council and the appellants in respect of these matters largely depends

[228] CD5.6, appendix 3A

[229] Document RES14, par. 3.37 and 3.43

[230] CD5.8, page 23

on the interpretation of the effect that turbines have on the setting of such monuments. It is clear from relevant guidance and previous appeal decisions that the Council's archaeology witness has overstated these effects. Furthermore, the Council has sought to increase the cultural significance of the assets because of local communal values. In the circumstances there are no grounds for supporting the refusal of the application on the grounds of impacts on cultural heritage.

Common Land

196. An application has been submitted under Section 16 for deregistration of approximately 10 ha of land being the land on which the permanent infrastructure would be located. In addition just over 7 ha of the common would constitute access tracks. The appellants propose to provide for exchange land areas totalling some 52.3 ha which would be incorporated into the common. Exchange areas 1 and 2 would be added to CL3 and areas 3 and 4 would be added to CL4. These areas would be of use for grazing of stock and, as acknowledged by Mr Paterson, would be of potential benefit to the commoners. In particular, in relation to any agricultural support based on land area, the extent of the common would be increased and as previously identified, in the event of environmental schemes the HMP would be of assistance to graziers in applying for agricultural schemes which include environmental criteria. It is clear therefore that in terms of the tests set out in Section 16(6)(a) the interests of the graziers and the holders of other rights would not be compromised by the deregistration and exchange land proposals.

197. Some third parties expressed doubts about the exchange areas of land. These have been fully assessed by Mr Davies. In his professional opinion each of the exchange areas is suitable. It is clear that exchange areas 3 and 4 are very similar to adjacent common land areas and would provide additional grazing opportunities for stock. In relation to exchange areas 1 and 2, it is proposed that the areas would be managed to ensure that when the exchange occurs the land in question would be of a lower grazing standard and more equivalent to the adjacent commons. Mr Davies has extensive experience in grazing and agricultural matters and in his professional opinion provided that the areas are left for a couple of years to "rough up" they would not be in a condition which would result in any substantial disturbance to the grazing patterns on the common.

198. It should be noted that exchange area 1 is already open to the common through a dilapidated fence. There was no suggestion that it is currently distorting grazing patterns. Mr Averis has classified this area as U4b-semi improved acid grassland[231]. It is also clear from examining the report produced by Mr Davies and the information submitted by the graziers[232] that the main hefting locations within the commons are on the peripheral areas. These are the areas with highest grazing pressure. The exchange areas are located in locations which are unlikely to disturb established hefting patterns. They would however offer additional grazing to stock located in

[231] CD7.15

[232] Annex D to Volume 1 of Documents CD1.17 and CD1.18 and Document GA1

proximity to the exchange areas. As Mr Paterson puts it[233], hefting stock closest to the land swap areas are likely to use them. That is the purpose of the land swap areas and this would decrease the grazing pressure on the commons.

199. The Council expressed a concern in relation to temporary disturbance during the construction period. Again the areas of exchange and their availability are set out in the land swap plan for deregistration which accompanies the Section 16 application[234]. This shows the replacement land that would be available immediately, post construction and other smaller parcels available following the establishment of the habitat management area. Mr Davies has considered the implications of these matters in relation to the grazing potential of the exchange land and is satisfied that suitable areas would remain open throughout the construction phase to provide adequate compensatory grazing.

200. The Section 38 application identifies the complete area over which works may be undertaken during the construction period. It is important to note that this is the area in which construction could occur and that not all of the area would be required. The construction activities, even assuming a worst case scenario, are likely to encompass about 35 ha at a maximum, although are more likely to be in the region of about 25 ha. Again Mr Davies has set out in his Proof that the construction would be phased and as a consequence the level of disturbance at any one time would be limited and not encompass all areas of the development site.

201. Against that background it is his professional opinion that sufficient compensatory grazing would be provided to cover the temporary disturbance relating to the construction period. He has practical experience in the implementation of the Mynydd-y-Betws scheme and the evidence there suggests that the construction of the wind farm had a minimal impact on grazing patterns. However, the appellants are also prepared to submit a scheme to the Council prior to the commencement of development dealing with any issues associated with temporary disturbance associated with the construction phase. Mr Paterson confirmed in cross examination that this would deal with his concerns regarding any impact on the graziers.

202. The evidence has demonstrated that the proposals would be in compliance with sub-paragraph 6(a) of Section 16 and sub-paragraph (1) (a) of Section 39. These statutory provisions seek to ensure that the impact on those exercising rights is established and dealt with in the context of the application process.

203. In respect of both applications there are further tests in terms of Sections 16 and 39 which require to be addressed. In terms of the cross examination of Mr Stewart, a number of explanatory memoranda relating to regulations were put to him. It should be noted that these relate to commentary on the potential to introduce Statutory Instruments and are not a substitute for applying statutory tests which are set out within the Act. They are not documents which should be used in the interpretation of the statutory provisions.

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[233] Document CC11, bottom of par. 2.1.5

[234] CD1.17, Volume 1, plan 01561D2414-03

204. The tests include the interests of the neighbourhood, the public interest and any other matter considered to be relevant. The potential impacts on the local neighbourhood have already been addressed. Public interest includes nature conservation, the conservation of landscape, the protection of public rights of access to any area of land and the protection of archaeological remains and features of historic interest. These are duplicated in respect of a s. 38 application in terms of the provisions set out in s. 39.

205. In terms of the interests of the neighbourhood, these will include the likely landscape and visual effects, noise and other effects deriving from the wind farm development. These have been considered under other topics and would have to be weighed in the overall decision relating to the commons application.

206. In terms of the public interest, both the Section 16 and 38 applications protect public rights of access and archaeological remains located on the application site. Thorough archaeological investigations that have been undertaken including the utilisation of lidar information. In terms of nature conservation, there are very real opportunities for the enhancement of the nature conservation interest through both the measures in the HMP and the funding to improve the condition and state of the commons. In terms of the conservation of landscape, there would be adverse impacts arising from the wind farm development and associated infrastructure. These again have to be weighed in the overall balance.

207. The common land tests of public interest will also engage the national interest in the production of renewable energy. This is the approach which was adopted in the Todmorden and Lower Moor Common decision[235]. This adopted a similar balancing exercise as would be undertaken in a planning judgement. In the circumstances of that case, the Inspector found that the benefits of renewable energy were sufficient to outweigh the harm to the common.

208. In considering issues associated with the commons, it is necessary to determine the applications having regard to the statutory tests. In that regard whilst there is a planning policy relating to common land, that must be subsidiary to the primary legislation dealing with commons. In terms of approach, it is probably more appropriate to undertake the planning balance and assessment in the first instance and thereafter take that into the decision making in respect of the commons applications.

Conditions/Unilateral Undertaking

209. The only significant disagreement on conditions relates to whether a condition is required for the MoD/Met Office radar. A condition is unnecessary given the position adopted by the MOD/Met Office[236]. However, if that position is not accepted the condition proposed by the MoD should be preferred to that of the Council. In relation

[235] CD9.24

[236] Documents G4 and G5

to the unilateral undertaking, a further revised version[237] has been submitted. This addresses concerns expressed by the Council in terms of the previous unilateral undertaking offered[238]. The current undertaking seeks to offer a very simple mechanism. A number of payments require to be made prior to the commencement of development and the further substantive obligations offered by the appellants would be secured by means of a bond or alternative financial security. This avoids the concerns of the Council regarding enforceability against the Crown Estate whilst at the same time ensuring that the benefits of the undertaking can be guaranteed. All of the provisions of the unilateral undertaking meet the tests set out in the *Community Infrastructure Levy Regulations*.

210. The HMP condition meets all the tests. Nothing would preclude enforcement action against the developer for non-delivery of a scheme as it would be in occupation and have the rights derived from the Crown's ownership. This is no different from other sites where there are a range of parties including tenants and sub-tenants.

Development Plan and other Material Considerations

211. The UDP[239] was adopted in July 2006. The SPG published in July 2008[240] acknowledges that the UDP was prepared, without the full benefit of TAN 8 guidance. It is inevitable that the development plan process requires to be completed and at times will lag behind the development of national policy and guidance. The statement in the SPG illustrate that the sections in PPW regarding the weight to be attached to a development plan would apply[241].

212. Certain policies of the UDP are phrased in absolute terms and do not provide an appropriate balancing exercise as set out in PPW. For example, policy UT6 requires a whole series of criteria to be met for a wind energy scheme to be permitted. Sub-paragraph (i) includes a test of "significant adverse impact" on a range of resources. That type of impact will inevitably occur in the development of a large scale wind farm. Furthermore, the text underneath UT6 restricts the location of wind farms to those areas where there would not be a significant cumulative effect. Such a statement is incompatible with the development of a SSA. This demonstrates why the current UDP is not appropriate when considering large scale proposals in a TAN 8 SSA.

213. Furthermore, in terms of the nature and landscape policies, the Council has claimed that the site is the equivalent to a Site of Importance for Nature Conservation (SINC) and thus engages policy EN3. There is a suggestion that because of the text in paragraph 9.09 the policy can be applied where no designation has been made. This

[237] Document RES35a-b

[238] Document RES34

[239] CD2.1

[240] CD3.22

[241] see CD3.1, par. 2.71, and CD 3.20, second last par.

paragraph just provides background to how various designations occur. It provides no support that a SINC can occur without designation. Policy EN20 in relation to common land adopts tests for development within a common which go well beyond the statutory regime set out in commons legislation. Again, there is no balancing exercise permitted under this policy. This is also reflected in the policy in relation to EN16 in terms of special landscape areas.

214. This can be contrasted with the national policy as set out in PPW. This clearly identifies that non-statutory designations should not unduly restrict development. In order for such a test to be incorporated there needs to be a balance within the policy[242].

215. Against the above background, the UDP is outdated having pre-dated TAN 8. In the circumstances the main consideration in the determination of this appeal should be the Energy Policy Statement of March 2011[243] together with the planning framework established through PPW and TAN 8. This requires an overall balancing assessment against the renewable energy benefits that would derive from the proposal against the acknowledged effects that the proposal would have on various resources. The ES and Mr Stewart's evidence demonstrate that the site has a good wind resource which can be exploited to make a meaningful contribution to renewable energy targets. When this exercise is properly undertaken the national interest in renewable energy would outweigh the more localised impacts that would arise from the appeal proposals.

The Case for Carmarthenshire County Council (Documents CCC2, 7, 11, 15, 17, 20 & 34)

The material points are:

Planning

216. CCC recognises the need for renewable energy. It addresses that need in a proportionate and balanced way rather than the panic technique of Mr Stewart. He was keen to tell the Inquiry that all wind farms have an effect on landscape character and on views, to stress that not all approvals are built out, and that the need for more permissions was urgent.

217. CCC is well aware that the provision of renewable energy from onshore wind causes the greatest harm to landscape of all the renewable technologies. It has always been prepared to pay that high environmental price for green energy where the exchange was a fair one. It has been a high price because rural Carmarthenshire is a most attractive County. Yet it hosts Dyffryn Brodyn, Parc Cynog, Mynydd y Betws, Blaen Bowi and Alltwalis, did not oppose the principle of Brechfa Forest West and hopes a positive decision at Brechfa Forest East will prove appropriate[244]. It considers the price too high to pay at this location.

[242] see CD3.1, par. 5.3.11

[243] CD3.8

[244] See par. 25 of this report for latest position

218. The Energy White Paper in 2007 set out a statement of need. It stated: "A regulatory environment that enables the development of appropriately sited renewable projects, and allows the UK to realise its extensive renewable re-sources, is vital if we are to make real progress towards our challenging goals."[245] There is such a regulatory environment in Carmarthenshire and in wider Wales. Where proposals are appropriately sited in locations where benefit outweighs harm, they are approved.

219. Even where large parts of a proposal, even all of a proposal, lie outside but close to a SSA boundary, CCC has applied the test required by TAN 8 that "Within (and immediately adjacent) to the SSAs, the implicit objective is to accept landscape change i.e. a significant change in landscape character from wind turbine development.[246]" The same guidance is not given with regard to development on priority habitat described by LANDMAP as outstanding, hosting nationally important numbers of over wintering golden plover[247] and 13 red and innumerable amber list bird species. This turbine-philic test does not apply to historic landscape described by LANDMAP as outstanding or the setting of nationally important heritage features, or to visual impact on residents, nor to common land.

220. Even Mr Stewart accepts that it is not a "free for all" within an SSA. That judgment has to be applied to where within an SSA development should be permitted to be found appropriate, is made clear by TAN 8: "Not all of the land within the SSAs may be technically, economically and/or environmentally suitable for major wind power proposals; however the boundaries are seen as encompassing sufficient suitable land, in one or more sites, to deliver the Assembly Government's energy policy aspirations.[248]"

221. That advice was not removed by the 2011 update letter following 'A Low Carbon Revolution'[249]. TAN 8 continues to be endorsed by PPW 5[250] which sets out that "The detailed characteristics of SSAs and the methodology used to define them are outlined in TAN 8 and its Annexes. Development of a limited number of large-scale (over 25MW) wind energy developments in these areas will be required to contribute significantly to the Welsh Government's onshore wind energy aspiration for 2GW in total capacity by 2015/17".

222. Much of Mr Stewart's evidence, despite the SoCG, was directed towards the merit of WG policy. However policy says what it says. The aspiration for onshore wind from any part of Wales is no more than 2GW; the SSAs are expected to contribute significantly towards that target but not fulfil all of it; the boundaries, characteristics

[245] CD3.12, p.157, Box 5.3.3

[246] CD3.2, Annex D, par. 8.4

[247] ES volume II, par. 7.9.13 & Table 7.15 of CD1.4

[248] CD3.2, TAN 8 par. 2.4

[249] CD3.10

[250] CD3.1 par. 12.8.13

and Annex D methodology (which includes adjacent areas) is endorsed; the Minister for Environment and Sustainable Development's declared aspiration for SSA G is 132MW[251]; spatially specific Welsh policy should be respected; SSAs have a finite environmental capacity and the levels should not be exceeded; the key policy framework for Wales when determining energy applications in Wales remains the UDP and, where it is more recent, PPW and TAN 8.

223. Mr Stewart takes the view that the Minister based his figures on a false reading of Garrad Hassan[252] and a misunderstanding of what TAN 8 2005 contained. It contained a method of assessment and the increased figures were assessed using that methodology. He also says that the basis for the environmental concern is the potential to require larger elements of grid infrastructure. That he is wrong is demonstrated by the Minister using that simply as an example. What the Minister was seeking to ensure was that "wind farm development within the SSAs is proportionate and balanced with other development needs in these areas."

224. Mr Stewart said that the number of MW cannot be used as a "guillotine" cutting off applications. CCC does not argue that it is anything of the sort. What the Local Planning Authority (LPA) says is this: when an inappropriate site is promoted, one where there is significant harm to a range of environmental interests, one has to consider whether refusing it would imperil the Welsh aspirations or the UK targets. UK confidence[253] that its targets can be met must take some account of Welsh aspirations: it is expecting no more than 2GW of onshore wind in Wales by 2020/2025. It knows that Wales aspires to have much of it on stream by 2015/2017. This proposal is highly unlikely to make that interim target: as it awaits grid connection. The appellants recognise that by seeking 6 years in which to commence development. The figures for constructed, consented and in planning for Wales indicate that progress towards the 2GW aspiration is healthy.

225. If there were no other land potentially available within the SSA or adjacent to it or if Wales was not now promoting further use of brownfield and appropriately sited smaller schemes[254] one might, if progress stalled, have to give greater weight to need. However that is not the position. Ove Arup have concluded that there is existing potential both within the SSAs plus 5km limit[255] and opportunities elsewhere[256]. Their assumptions included a potential 25% refusal rate, noting that there had been 3 refusals upheld on appeal within SSAs[257]. Interestingly, had developer interest not

[251] CD3.20

[252] CD3.25

[253] CD3.7 par.2.7

[254] CD3.10 p.15

[255] CD3.26 Table 5.2 p.17

[256] CD3.26 par.6.4

[257] CD3.26, table 5.3, p.18

been previously shown in this site, the Arup assessment methodology would have automatically excluded it since LANDMAP showed it to be of outstanding landscape habitat importance[258].

226. Mr Stewart equates "optimising" with maximising: CCC does not. "Optimising" the use of existing search areas does not mean cramming them edge to edge with turbines but "making the best use" of them. The best use must inevitably include proportionality, the other needs of the area, and the conservation of that which is of value. As Mr R Jones put it, basing his assessment on the essentially similar figures produced and reconciled, no "over-riding need" is demonstrated here.

227. Welsh policy recognises that "Local planning authorities are best placed to assess detailed locational requirements within and outside SSAs in the light of local circumstances."[259] Carmarthenshire instructed Arup[260] to carry out a refinement exercise as urged by TAN 8. It gave Mynydd Llanllwni a comprehensive rejection. It did so on landscape, visual impact, and nature conservation grounds[261]. This view was likely an underestimate of the value of the mountain since it failed to note that LANDMAP distinguished its visual and sensory quality as high to outstanding rather than simply high[262]; it failed to note the views which could be considered of national importance[263]; and disregarded the SLA designation despite being asked to take it into account[264].

228. The areas defined, which included study of some areas outwith the SSA, were designed to provide for 125% of the then target of 90MW[265]. The Arup study notes that Garrad Hassan had considered the potential within the SSA to be 132MW[266]. Finally it identified 4 areas G(a) through to G(d) and ascribed potential capacities to them. These areas were, in the Arup studies capable of providing between 100-115MW, but, as Mr Jones notes[267], these are proving to be underestimates. Alltwalis and Brechfa West broadly within refinement area G(a), having a predicted capacity of 65-75MW, will provide between 79-107MW, depending on the turbine chosen for Brechfa West. Brechfa East, again broadly within the identified G(c), will, if approved, provide between 24-36MW rather than the anticipated 15-20MW.

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[258] CD3.26 Appendix A, p.A6

[259] CD3.2 TAN 8, par. 2.3

[260] CD3.21

[261] CD3.21 p.44

[262] CD3.21 p.34 and Document CCC2 par. 2.3.10

[263] Document CCC2 par. 2.3.16

[264] Document CCC2 par. 2.3.11

[265] CD3.21 p.42 par 5.2

[266] CD3.21 p.28

[267] Document CCC17 p.35 par. 5.39

229. CCC did not adopt the Arup refinement study, preferring, like many other authorities[268], to assess each application on a "case by case" basis. That has permitted the LPA to consider positively developments which have edged over the Arup boundaries[269].

230. Reacting positively to the TAN 8 guidance[270] to be proactive in developing local policies for the SSA, CCC issued SPG to cover the period to 2010. It is of course out of time but it is informative of the LPA's view of the constraints affecting the SSA. It recognises the value of this common land[271]. It provides: an important source of grazing for rights holders; a wide range of habitats and species of biodiversity importance; a long-established recreational resource for those taking air and exercise on foot; a reservoir of stored carbon in wet, peaty soils; a relatively undisturbed environment with enhanced archaeological value. It identifies that development by wind turbines would result in a major change to character and identifies that it could be resisted in accordance with several UDP policies. So it too gave a rejection to development here.

231. The relevant UDP polices will be dealt with when addressing the impacts identified by CCC in its reasons for refusal. However, it is noted that Mr Stewart chooses to criticise the policies as unbalanced in failing to note that renewable energy is needed and enjoys Government support. Firstly, policy says what it says. Determinations must be made in accordance with it unless material considerations indicate otherwise. Secondly, there is no requirement for such a balance to exist within policy, statute provides it. Thirdly, policy UT 6, the lead policy for onshore wind, is supportive in principle provided criteria are met. Those criteria incorporate a degree of balance by using such words as "significantly" (UT6(i)) and "significant adverse" (UT6(v)), "sympathetic" (UT6(ii)) and "demonstrable harm" (UT6 (vi)). Determining whether a proposal falls foul or complies with those criteria as drafted requires the employment of planning judgment. The problem with this development is that it achieves every time a notable conflict.

232. Mr Stewart says "taken on its actual wording, as opposed to trying to import a balancing exercise into it, it is" in his opinion "difficult to see how any wind farm proposals in Carmarthenshire could be said to comply with it"[272]. He also accused Mr R Jones of reading into the policy what it should say rather than what it did say. This demonstrates Mr Stewart's failure to read the policy, let alone the plan, as a whole. The policy concerns wind turbines. Each criterion therefore must be read in the context of the type of development which is proposed. Significant harm or lack of sympathy must apply to the particular proposal rather than the technology, would this proposal, given that all wind turbines are large, industrial, metallic, mobile, highly visible, out of

[268] R Jones in oral evidence

[269] Document CCC17 p.35, par 5.39

[270] CD 3.2 TAN 8 par 2.10

[271] CD 3.22 SPG p.12 par. 7.4.1

[272] Document RES16 p.27 par 5.1.3

keeping with a historic rural environment, do significant harm, prove to be unsympathetic etc? Relying on the evidence of the LPA's experts Mr R Jones concludes that the development conflicts with policy.

233. He identifies all other relevant policies in the plan which, as he put it, provide "more detail", of the interests that are affected, considers the energy benefit of the scheme[273], from which all other benefits flow, such as reducing carbon emissions, in the light of national energy policy[274] and concludes that the harms occasioned would not be outweighed by the benefit[275].

Environmental Statement and Section 106

234. This proposal has had numerous iterations. Originally intended to provide more turbines and to occupy land both North and South of the road between Mountain Gate and the masts it morphed into an application falling below the Nationally Significant Infrastructure Project 50MW+ threshold. The current proposal for 21 wind turbines of 127.6m in height with associated infrastructure was accompanied by an ES when submitted in November 2010. SEI was provided in February 2012 and August 2012.

235. In recognition that wind power developments may take a long time to come to fruition a degree of generosity and flexibility is accorded to the precision which would normally apply to a proposal's particulars. Commonly a degree of micro-siting is allowed, a generic description of turbine or substation accepted, some future engineering or construction details left to be resolved by schemes under conditions. However the ES must allow for the impact of those potential changes: it must consider a worst case scenario. This leeway allowed for wind turbine development cannot excuse significant changes being proposed at a planning Inquiry.

236. An ES must include as a minimum[276]: a description of the development comprising information on the site, design and size of the development; a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; the data required to identify and assess the main effects which the development is likely to have on the environment; an outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.

237. The object of such work is to identify likely significant effects in the applicant's view and results in an ES. This permits statutory consultees and interested parties to comment. These additional matters form an essential part of the environmental

[273] Document CCC17, par.3.1

[274] Document CCC17, Section 4 p.12-22

[275] Document CCC17, p.85 par 16.10

[276] The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 R.2(1) and Schedule 4

information which any decision maker has to take into account[277]. Taken together it is agreed by CCC that the ES as supplemented by the SEI complies with the requirements of Schedule 4 of the 2011 Regulations. Fortunately that Schedule is essentially the same as that in the relevant Statutory instrument (SI) for Wales – SI 1999/293.

238. Compliance with the Regulations is not a ringing endorsement of the content. One may properly disagree with the conclusions and note omissions. The document has to be very poor indeed to fail the tests set by Sullivan J., as he then was, in the case of *Blewett*[278], to be an ES. However it must address the application submitted and not one which changes after submission and even during the evidence at Inquiry.

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[277] Art 3(2) The relevant planning authority or the Secretary of State or an inspector shall not grant planning permission or subsequent consent pursuant to an application to which this regulation applies unless they have first taken the environmental information into consideration, and they shall state in their decision that they have done so.

[278] The Queen on the Application of Blewett v Derbyshire County Council 2003 (upheld by Court of Appeal)

38. The Regulations envisage that the applicant for planning permission will produce the environmental statement. It follows that the document will contain the applicant's own assessment of the environmental impact of his proposal and the necessary mitigation measures. The Regulations recognise that the applicant's assessment of these issues may well be inaccurate, inadequate or incomplete. Hence the requirements in Regulation 13 to submit copies of the statement to the Secretary of State and to any body which the local planning authority is required to consult. Members of the public will be informed by site notice and by local advertisement of the existence of the environmental statement and able to obtain or inspect a copy: see Regulation 17 of the Regulations and Article 8 of the Town and Country Planning (General Development Procedure) Order 1995.

39. This process of publicity and public consultation gives those persons who consider that the environmental statement is inaccurate or inadequate or incomplete an opportunity to point out its deficiencies. Under Regulation 3(2) the local planning authority must, before granting planning per-mission, consider not merely the environmental statement, but "the environmental information", which is defined by Regulation 2 as "the environmental statement, including any further information, any representations made by any body required by these Regulations to be invited to make representations, and any representations duly made by any other person about the environmental effects of the development".

40. In the light of the environmental information the local planning authority may conclude that the environmental statement has failed to identify a particular environmental impact, or has wrongly dismissed it as unlikely, or not significant. Or the local planning authority may be persuaded that the mitigation measures proposed by the applicant are inadequate or insufficiently detailed. That does not mean that the document described as an environmental statement falls outwith the definition of an environmental statement within the Regulations so as to deprive the authority of jurisdiction to grant planning permission. The local planning authority may conclude that planning permission should be refused on the merits because the environmental statement has inadequately addressed the environmental implications of the proposed development, but that is a different matter altogether. Once the requirements of Schedule 4 are read in the context of the Regulations as a whole, it is plain that a local planning authority is not deprived of jurisdiction to grant planning permission merely because it concludes that an environmental statement is deficient in a number of respects.

239. Consultee responses to the original ES[279] identified the need for additional information regarding such things as the impact of foundations and pipelines/cable trenches[280] on the hydrological function of the wet heath and other Biodiversity Action Plan habitats[281]; need for sufficient land within the application site for surface water drainage; the lack of a HMP[282]; lack of information on access routes; insufficient literature review for birds[283]; lack of cumulative impact assessment on birds. Similar lacks were noted at the pre-SEI submission stage by the CCW, for instance: lack of detail of amount of wet and dry heath to be lost or translocated[284]; lack of information on soils and seed bank storage or disposal need, or detailed predator control; lack of

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41. Ground 1 in these proceedings is an example of the unduly legalistic approach to the requirements of Schedule 4 to the Regulations that has been adopted on behalf of claimants in a number of applications for judicial review seeking to prevent the implementation of development proposals. The Regulations should be interpreted as a whole and in a common-sense way. The requirement that "an EIA application" (as defined in the Regulations) must be accompanied by an environmental statement is not intended to obstruct such development. As Lord Hoffmann said in R v North Yorkshire County Council ex parte Brown [2000] 1 AC 397, at page 404, the purpose is "to ensure that planning decisions which may affect the environment are made on the basis of full information". In an imperfect world it is an unrealistic counsel of perfection to expect that an applicant's environmental statement will always contain the "full information" about the environmental impact of a project. The Regulations are not based upon such an unrealistic expectation. They recognise that an environmental statement may well be deficient, and make provision through the publicity and consultation processes for any deficiencies to be identified so that the resulting "environmental information" provides the local planning authority with as full a picture as possible. There will be cases where the document purporting to be an environmental statement is so deficient that it could not reasonably be described as an environmental statement as defined by the Regulations (Tew was an example of such a case), but they are likely to be few and far between.

68. …..Unless it can be said that the deficiencies are so serious that the document cannot be de-scribed as, in substance, an environmental statement for the purposes of the Regulations, such an approach is in my judgment misconceived. It is important that decisions on EIA applications are made on the basis of "full information", but the Regulations are not based on the premise that the environ-mental statement will necessarily contain the full information. The process is designed to identify any deficiencies in the environmental statement so that the local planning authority has the full picture, so far as it can be ascertained, when it comes to consider the "environmental information" of which the environmental statement will be but a part.

[279] CD1.5, Appendix A

[280] CD1.5, Appendix A, EA 01/09/2011 p.2

[281] CD1.5, Appendix A EA 17/02/2011

[282] CD1.5, Appendix A RSPB 04/03/2011 James Byrne E-mail

[283] CD1.5, Appendix A RSPB 04/03/2011 James Byrne letter

[284] CD1.5, Appendix A, CCW 27/07/2011

information on how much and where the illustrated access track cross-sections of Figure 4.4. would be employed[285].

240. There is still no satisfactory description of the amount of heath which would be lost to the tracks or the amount which would be reinstated. Each of the appellants' witnesses gives different amounts to be temporarily or permanently lost, all of them less than the original ES indicated. Towards the end of the Inquiry we have the submission of an unsubstantiated table. It is an issue on which "full information" is not available and the best that can be done is to rely on the worst case scenario as set out by Ms Carmichael.

241. The cable trenches are not now to accord with the drawing in the ES, (Fig 4.13) not described as "typical", but are, according to Mr Robinson, to carry the cables in a duct. The drainage systems remain undefined as do the borrow pits. The HMP is described as a "live document" with the suggestion from Mr Robinson and Mr Davies that promised plots can move, proposed methods change (Mr Robinson), and suggestions to Dr Reed in cross-examination that he should be helpful in suggesting alterations to the bird mitigation. These are matters on which the public and statutory consultees should have had an opportunity to comment. The Aarhus Convention, Directive 85/337 and the 1999 Regulations are based on the premise that it is in the public interest that there should be effective public participation in the decision-making process in significant environmental cases. That pre-supposes that not just those members of the public who happened to be present on any particular day of this Inquiry should have an opportunity to comment.

242. As Waller L.J observed in *Maureen Smith v Secretary of State for the Environment, Transport and Regions & Ors* "the planning authority or the Inspector will have failed to comply with article 4(2)" (now 3(2) "if they attempt to leave over questions which relate to the significance of the impact on the environment, and the effectiveness of any mitigation. This is so because the scheme of the regulations giving effect to the Directive is to allow the public to have an opportunity to debate the environmental issues, and because it is for those considering whether consent to the development should be given to consider the impact and mitigation after that opportunity has been given."

243. Furthermore, there is a limit to what conditions can achieve in an Environmental Impact Assessment (EIA) application. One has to start with a framework within which they can operate without leaving the ambit of what has been assessed. The conditions imposed must not allow the LPA to approve a scheme which deviates from the information taken into account and which might have a significant effect on the environment. One must be sure that they are constrained within the "Rochdale envelope".

244. These suggested alterations to the proposal were not part of the application or the ES or the SEI. It is recognised that where a proposal may need to be flexible that the ES must allow for such potential changes. However as Sullivan J. noted in *Regina v Rochdale Metropolitan Borough Council 2000 WL 1151364:* "the development which is

[285] CD1.5, Appendix A, CCW 02/11/2011

described and assessed in the environmental statement must be the development which is proposed to be carried out and therefore the development which is the subject of the development consent and not some other development."

245. Throughout this application and in the run up to this appeal the LPA has raised its concerns with the appellant that the failure to engage with the graziers was a formidable problem in setting conditions which could be achieved or enforced or in the entering into a s.106 obligation. Whilst understanding the Inspector's justifiable annoyance that the s.106 problems had not been resolved prior to the end of the Inquiry, CCC has consistently raised the issue with the appellants[286]. It raised it first at scoping and has continued to do so[287]. The LPA spelled out the problem in its Statement of Case (05/06/2013), at a meeting with the appellants on 11/06/2013, by letter from Mr Bowen (RJ) of 27 June 2013, by Council solicitor's letter of 05/08/2013. The appellants have simply refused to address the issue beyond asserting that it was agreed that the HMP could be dealt with by condition and therefore the graziers did not need to be signatories to the s.106. No such agreement existed then or now.

246. If conditions are necessary to ensure the HMP, and the SEI declares that the habitat restoration and management proposals form a fundamental part of the application[288], then they need to comply with the tests for valid conditions as identified in Welsh Office Circular 35/95.

247. The LPA cannot take enforcement action against the Crown without obtaining permission from the appropriate authority (s.296A, *Town and Country Planning Act 1990*). That is the Crown Estate Commissioners (s.293 (2). Their attitude may be deduced from the first unilateral obligation provided. They are taking no responsibility for compliance with that document but are determinedly ducking out. According to RES solicitor (during the Unilateral Undertaking discussion) they would not sign without the then contained exemption. That has now changed, but they are still not giving permission for the LPA to take normal enforcement action. Schedule 4 does not deal with the long term, any diminution after construction is not taken into account.

248. Normal enforcement under s.172 (2) of the 1990 Act requires service of the notice on the land owner and occupier of the land and on any other person having an interest which in the LPA's opinion is materially affected. That, provided the Crown Commissioners agree, would mean them, the developer, any agricultural tenants and the 140 or so graziers. The content and effect of such a notice are as set out in s.173.

249. Let us suppose that what needs to be done is to spread soil, cut turves and place them. Interference with the soil requires the Crown's permission; interference with the product of the soil requires the acquiescence of the graziers. The developer has no power to interfere with the rights of the graziers, the Crown has no power to interfere with the rights of the graziers, and the graziers have no interest in the development.

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[286] Document CCC35

[287] CD1.25, par. 11.1.3

[288] CD1.5, p.1. par 8.2.1

The LPA cannot enter upon the land under s.178 and carry out the works for the same reasons and if they did would have no power to compel the Crown to pay up. The Unilateral Undertaking does not relate to enforcement powers under the Act. One suspects that any attempt to coerce the graziers into cooperation would be strongly resisted.

250. Any part of the HMP which relies on restoration or interference with the growth of grazing on the commons requires not just the Crown's permission but that of the graziers also. In the absence of such agreement conditions providing for the HMP are unenforceable. In the absence of the graziers, and with the Crown disowning responsibility, offering money to the LPA to run an ill-considered and un-implementable scheme does not fix the problem.

Grazing Rights

251. What are the rights of a grazier? Gadsden[289] says that his stock may take by bite of mouth[290], that he may take limited forms of action such as the prevention of the spread of pests and the removal of noxious weeds but any other interference with the soil is trespass unless he can prescribe or prove a custom. Examples of such a prescription or custom might be an immemorial right to scour ditches to let out water or to burn heather or grass. A similar prescriptive right, if continued for sufficient time, would apply to the right to cut grass rather than burn it. Since the memory of man runneth not to the contrary the Commoners of Mynydd Llanllwni have managed the grazing. Similar prescriptive rights cannot be acquired by the land owner.

252. What are the rights of the owner of the soil? "The Lord has rights of his own reserved upon the waste; I do not say subservient to, but concurrent with, the rights of the commoners. And when it is ascertained that there is more common than is necessary for the cattle of the commoners, the lord, as it seems to me, is entitled to take that for his own purposes" (Bayley J. in *Arlett v Ellis (1827) 7 B. & C. 346 at 369.*). In short he can have the surplus. The owner may take a surplus of grazing in any year by means of his own cattle or by license to a stranger but cannot let out to pasture so much as not to leave sufficient for the commoners. He must leave a sufficiency to satisfy whatever has been granted away.

253. Mr Paterson and Mr Davies are in agreement regarding the number of rights shown on the register. On Common CL3, Mynydd Llanllwni, which has an area of 9676ha[291], 13,551 sheep, 545 head of cattle, 124 horses, all with followers. On Common CL4, Llanfihangel Rhos–y-Corn, which has an area of 225ha, 7,154 Sheep, 175 cattle, 74 horses, all with followers. That gives approximately 2.27 Livestock Units (LUs) or 13.66 sheep equivalents per hectare. Whilst it is acknowledged that not all rights are currently used there is no agreement between Mr Davies and the graziers regarding the numbers of active graziers, let alone the heads per hectare. Mr Davies admitted

[289] Document CCC36

[290] i.e. graze

[291] CD1.17a, continuation sheet p.14-15

that he had not counted the stock and considered it impossible to do so. Until somebody does so there can be no evidence of surplus.

254. The ARAD overgrazing report[292] in 2003 concluded that the carrying capacity of the common was 294 LUs or 1960 head of sheep and recommended reduction to 0.2LU per ha or 1453.2 sheep. Until there is a lower figure than that there can be no question of a surplus. Whilst those currently active graziers who do claim Single Farm Payment (SFP) may be obliged to remove stock there is nothing to control those who have rights from exercising them, and if they do not claim the payment, no financial inducement to do so. As Mr Wilson noted, the locals regard their rights as part of the value of their property and are not minded to abandon them.

255. Only as the condition and Unilateral Undertaking session approached did the appellants seek to suggest that there could be a condition applied to the commons application compensating commoners. There appears to be no authority for such a condition in Gadsden or the Planning Inspectorate guidance. The right of the commoner is an incorporeal hereditament. Whether the owner of such a right in land wishes to relinquish it, temporarily or in perpetuity, and upon what terms is a private matter for negotiation. No such negotiation has been undertaken. Mr Davies opines[293] that no active grazier would seek to thwart the HMP. He offers no supporting evidence for that opinion and the Graziers Association opposes the application.

256. A final note on the HMP and commons. Finding from her proof that the proposed mitigation did not meet with Ms Carmichael's approval, Mr Robinson introduced two new ideas. If the pressure of sheep on the newly reinstated tracks, even if restored by placing turfs rather than the original idea of scraping up topsoil and vegetation together, was unacceptable he would exclude the animals by shepherding or fencing. Interference with another's stock is not only unlawful but likely to lead to vigorous and pointed objection. Fencing without an application under the commons legislation, no matter that it is temporary, is not permitted by any exemption order under s.43 of the 2006 Act in Wales. The application under s.16 makes it clear that temporary fencing of the tracks, save for the site entrances, is not sought[294].

Landscape

257. The evidence of Ms Bolger[295] based on the latest edition of the GLVIA[296] identifies the key characteristics of the landscape of, and surrounding, the site relying on the nationally consistent data set of LANDMAP.

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[292] CD7.6, par.6.13

[293] Document RES12, p.14

[294] CD1.18 Tab 2, Table p.3, statement page 5, page 7, page 13

[295] Document CCC2, par.3.1.1

[296] CD4.1 sets out the factors that should be considered in establishing a study area and determining the baseline conditions. (Page 32 Paragraphs 3.15-3.17) '*For the landscape baseline the aim is to provide an understanding of the landscape in the area that may be affected – its constituent elements, its character and the way this varies spatially, its*

258. That baseline identified that the visual and sensory aspect (CRMRTVS734) of the landscape of Mynydd Llanllwni as of high to outstanding importance. The aspects for which that score is given are: its 360 degree views, its feeling of exposure and its heather moorland vegetation, all of which contribute to its great sense of place. It is easily accessible from public roads. It also scores outstanding for rarity. LANDMAP notes its perceptual characteristics: "Although two roads cross the area, they are used infrequently the Mynydd had a feeling of being exposed and of being wild, empty and quiet…" The assessor observes that "The views could be considered to be important at national level".

259. What aspects should be enhanced? Answer: 'Heather moorland and archaeological sites'. What threats exist? Answer: 'Development of wind farms on or adjacent to this area. Guideline: Resist any intrusion on the mountain such as masts, wind turbines, keep clean non cluttered lines...'

260. Under the historic landscape layer (CRMRTHL42421) Mynydd Llanllwni is evaluated as outstanding. Again the relevance of the moorland is noted "Mynydd Llanllwni is open moorland with Bronze Age barrows a distinctive feature". There is no quibble about its quality – the assessor notes "this area scores highly in all evaluation categories. It is a good example of an upland landscape with nationally important components." The LANDMAP landscape habitats aspect layer also considers Mynydd Llanllwni (CRMRTLH112) to be outstanding – again for the quality of its heath.

261. Only the cultural heritage layer gives it a low score. The layer (CRMRTCL033), apparently composed by an assessor who was unable to map what was present, in planning, or likely but enthusiastically capable of identifying other areas, does contain some comments of interest: he notes the significant common grazing on Mynydd Llanllwni and the quality reducing effect of wind farms over the study area saying "Low as wind farms visible phenomena affecting the established culture of adjacent landscapes over long vistas of the Study area."

262. It is important to recall that the wind farm aspect layer study area covers the whole of Carmarthenshire (even though it is dreadfully inaccurate in locating any sites). The mirror to it is the aspect layer "Rural Carmarthenshire" (CRMRTCL060) given a high evaluation for "the varying topography of each of the areas being emblematic of the beauties of the countryside, and for the survival of its principal cultural activity of farming". In reading these layers one should note that the only mapped site having wind turbines in the cultural layer for "wind farms" was Blaen Bowi, whilst all the other existing or consented sites, Dyffryn Brodyn, Parc Cynog, Alltwalis, Brechfa West, Mynydd y Betws, fell within "Rural Carmarthenshire". There can be little doubt that an element of the cultural interest of Mynydd Llanllwni is the presence of ancient common grazing serving the Carmarthenshire "principle cultural activity of farming".

geographic extent, its history (which may require its own specialist study), its condition, the way the landscape is experienced, and the value attached to it.'

263. The GLVIA 2013 recommends that the value of the landscape should be identified as part of the baseline assessment.[297] TAN 8[298] advises that "The landscape value of an area is an important criterion in judging its suitability for wind turbines development. It is a factor that applies to a particular area rather than a generic landscape type." The ES (Paragraph 5.6.10) identifies that 'the value attributed to the landscape is an important factor to be considered when assessing the sensitivity of a given landscape.'

264. The site boundary contains the vast majority of the Mynydd Llanllwni SLA. The consultation draft SLA, now more consistent in area with the LANDMAP visual and sensory boundaries, similarly contains the proposed site.

265. Ms Bolger attributed a high landscape value to Mynydd Llanllwni. Its susceptibility to turbine development is based on its lack of overt recent landscape change, its distinctive smooth profile, its perceptual qualities of remoteness and tranquillity and its attractive views. By combining value and susceptibility she concluded that its overall sensitivity was high. In that she accorded with the ES which had reached the same conclusion by the GLVIA 2 route[299].

266. In contrast Mr Goodrum considered the sensitivity to be merely medium. He fails to mention and was reluctant to concede that LANDMAP gave it a high to outstanding score. After some brisk debate he conceded that he would allow a 1/3rd above high score. So why does he reduce the baseline to so low a level? He claims it is not a pristine landscape[300] citing masts, which lie either outwith the common or on its far boundary, the presence of Alltwalis wind farm in the view and the future presence of Brechfa Forest West. He fails to note that these two developments lie in different landscape character areas, the first being on semi-improved grassland and the second within commercial forestry. He notes a lack of wildness and tranquillity citing frequent passing traffic, in direct conflict with LANDMAP, nearby forestry, which presumably applied when the LANDMAP assessor saw it, and "obviously managed heath".

267. He asserts that there would be an improvement in the heath[301] and disagrees with the SEI[302] and Ms Bolger[303] that there would be a high to moderate significant adverse

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[297] The value of a landscape is 'the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a variety of reasons…..A review of existing landscape designations is usually the starting point in understanding landscape value but the value attached to undesignated landscapes also needs to be carefully considered.

[298] CD3.2, Annex D 4.3

[299] CD1.4, p.86

[300] Document RES2, par. 4.7.11

[301] Document RES2, par. 4.4.3

[302] CD1.5, par. 5.4.7

[303] Document CCC2, Section 7.2 30-34

effect on landscape fabric as a result of the access tracks. He asserts that the Arup refinement study indicates that the zones performed acceptably despite the clear indication[304] that zones 6 & 7 were excluded because of their poor landscape and visual performance. He fails to identify the magnitude of change which would result from the development, and suggests that it is limited by the existing and approved turbines to the south west[305]. Yet in his assessment of effects on landscape character concludes that the effect would be of High-Medium magnitude and significant[306]. To achieve that score on a medium sensitivity he must be accepting a high magnitude of change. Contrast that with his view that the SLA has a high-medium sensitivity with effects of medium magnitude and not significant, a combination which would generally be regarded as resulting in a moderate-major significant effect.

268. If he is right that the effect of nearby development so alters both sensitivity and magnitude of change then not only must he accept that turbines are harmful but, it would appear, that there is nothing to prevent perpetual turbine creep as each development affects the next door landscape character area.

269. The two experts are equally at odds with the visual impact of the development. He takes the position that as there are already views of turbines the addition of more has an insignificant effect[307]. Ms Bolger, noting dominant escarpment, readily appreciable by its heath cover so different from the adjoining forestry or enclosed land, considers there would be harm to visual amenity not just to the users of the commons but also within the wider landscape to the north west[308]. She notes, in accordance with the GLIVIA (both versions) that recreational users of the commons should be regarded as high sensitivity and not high medium as the ES concludes. Mr Goodrum elected to ignore the impact of the tracks on recreational users: Ms Bolger did not. Is it credible that extensive access to a wind farm landscape over engineered tracks can be regarded as a benefit for the loss of tranquillity and historic wildness accessible over local quiet roads and green ways?

270. Ms Bolger rightly notes that the SSA is so called because it is a search area. Not an area to be entirely developed but an area within which a limited number of large wind farms can be located. The Arup Study[309] sought to identify zones within the SSA's which were not constrained by the criteria set out in Tan 8 Annex D, clearly recognising that there would be parts within SSA G which did not respond to those criteria. Ms Bolger's evidence, which clearly identifies what matters and why, should, be preferred to that of Mr Goodrum who seeks, amongst other things, to justify changing an open, tranquil, upland moorland into a wind farm landscape on the basis of a cultural aspect

[304] CD3.21, p.43 and 44

[305] Document RES4, TAB 2 p. 7

[306] Document RES4, Appendix 2.3 p.27

[307] Document RES2, par. 5.4.3-5.5.7

[308] Document CCC2, par. 8.1.3

[309] CD3.21, par.2.3.3

layer which he has failed to ground truth and which he has misread[310]. For that layer of LANDMAP, as can be seen excludes locally all areas in which there are turbines, such as Alltwalis, or consented turbines at Brechfa West, and includes only areas in which there are none[311].

271. Ms Bolger[312] and the SEI[313] identify significant effects on a number of residential properties. Although at the time of signing of the Landscape SoCG Mr Goodrum would not agree that these effects should go into the planning balance he accepted in cross-examination that they should. He did not accept that the impact on the 3 properties at Rhoswen would make it an unattractive and thus unsatisfactory place in which to live. Ms Bolger[314] identified the lack of alternative views, the dominance of the turbines, sited on higher ground than the property and all appearing within the view along the full length of the horizon. The site visit will confirm her view and that there is conflict with UDP policy UT6 (i),(ii) and (vi).

Birds

272. The LPA was carefully specific in its reason for refusal. It said "The Environmental Statement identifies risks of significant adverse impacts on bird communities of local and regional importance and the habitat they depend upon arising from the permanent and temporary infrastructure associated with the proposed development, while the presence of turbines with their rotating blades may result in collision and possible bird fatalities. The mitigation proposals put forward are considered inadequate to overcome those risks and impacts identified."

273. Without conducting its own surveys over many months no LPA can aver with certainty that such risks would eventuate. It can only identify that they may do so. However any LPA with a skilled ecologist on its staff can spot ineffective mitigation proposals which include basic errors such as the provision of seeds for insectivorous birds, or the provision of enhanced foraging areas when the loss of habitat relates to a target species which roosts on the site.

274. The ES[315] documents that the ornithology chapter was produced by Arup and Ecology Consulting. The latter is the company with which Dr Percival, the appellants' ornithology witness, is associated. Despite that, in the course of the evidence, Dr Percival admitted he was not the author of it or the SEI[316] or one of the surveyors.

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[310] Document RES2, par. 4.7.21

[311] Document CCC5, Fig 08

[312] Document CCC2, par. 8.2.4-8.2.7

[313] CD1.5, TAB B p.62-64

[314] Document CCC2, 8.2.8- 8.3.1q1

[315] CD1.4

[316] CD1.5

Further he had not proof read either document. His involvement appears to have been to set up the survey effort at Mynydd Llanllwni.

275. The ES and SEI set out that the methodology used was based on SNH guidance[317]. Neither the ES nor the SEI indicated that there were any deviations from the methodology contained in those documents or from good practice. The expectation of those consulted (statutory, non-statutory and public) was, therefore, that the methodology followed would be consistent with SNH guidance. The SNH guidance sets out the reasons for using a standard method "The use of standardised methods of bird impact assessment will help to maintain consistency across assessments, facilitate comparisons between sites and assist in the prediction of effects at future developments." Whilst the guidance is advisory and recognises that variations may be necessary, it requires that "Developers should make clear where variations have been adopted and the justification for using such variations."[318]

276. These expectations were not fulfilled. In fact a distinctly non compliant approach was adopted. Does it matter? In the LPA's view it does. The unacknowledged failure to comply with guidance in numerous particulars has inevitably the potential to mislead consultees. Believing impacts to have been assessed in accordance with an approved methodology they are very much less likely to interrogate the results with a jaundiced eye. Had the ES chapter commenced with an acknowledgement that SNH guidance had not been followed, a reasonable suspicion of the results would have ensued.

277. It is clear that this is not the first time that Dr Percival has failed to follow SNH methodology. It is, for instance, as he voluntarily told us (in re-examination) his general practice not to provide detailed information until asked for it. Furthermore the Stacain decision[319], where again the survey work was defended by Dr Percival, clearly sets out that, when responsible for surveying for golden eagle at a SPA in Scotland, the surveys exceeded the permitted length, sited observers at viewpoints where their presence might disturb birds, and undertook other surveys when viewpoint observations were being carried out[320]. The Reporter found that as a result under observation of golden eagle was possible as a result. It should be noted that the decision pre-dated the SEI for Bryn Llewellyn.

278. The judgment of whether an assessment is sufficiently accurate is not a matter for the appellants' ecologist. It is for those who read that assessment and check its

[317] CD1.4, par. 7.1.2 Whitfield et al 2005 – distances;
CD1.4, par. 7.3.5 SNH "Survey methods for use in assessing the impacts of onshore wind farms on bird communities 2005"; SNH "Environmental Statements and Annexes of Environmentally Sensitive Bird information, Guidance for Developers, Consultants and Consultees" 2009); the Band Collision Risk Model, Band et al 2007; SNH guidance on target species avoidance rates SNH 2009;
CD1.5, Appendix E section 2.1: SNH 2005 as revised in 2010

[318] CD8.76, par.9

[319] CD8.33

[320] CD8.33, par. 8.39, 8.40 and 8.59

accuracy. SNH 2005 makes that clear[321]. It sets out precisely what information should be provided when reporting and says why. For instance, details of assessments, even if negligible, should be provided so that the consultee and consulting authority can check them. Sufficient data on collision risks should be provided so that they may be independently checked.

279. Dr Reed sets out clearly all the departures from good practice and SNH guidance that were perpetrated with appropriate references in his proof. He notes the SNH expectations such as maps including the location of the wind farm, the location of the view points and the arcs in which observations were conducted. No such maps were provided in the ES. Even when pressed for them in preparation for the Inquiry no arcs were identified. Those maps which were provided did not include the turbine locations, were inconsistent in coverage and some failed to include the view point. That Dr Percival claimed in oral evidence was because it was recorded on the other map of the pair. If it was it renders the Fig 1[322] a blatantly untruthful document for that purports to identify the areas observed from each viewpoint.

280. Details should be provided in tabular form of all forms of survey conducted. Timing, duration, observer identity, location of each viewpoint watch observation period, walk-through survey routes, plus associated weather conditions, should all be presented in an appendix. None of these were provided until under pressure from Dr Reed. Once the data was obtained it became clear that recommended timings had been exceeded, potentially affecting viewer acuity[323]. Start and finish times of walkover surveys were unknown in some instances or shown to be consecutive to viewpoint survey times without providing the necessary 1 hour respite[324]. Dr Percival tried to assert that walkovers did not take place at the same time as viewpoint surveys but could produce no times nor routes for some walkovers – particularly those challenged by Dr Reed. Dr Percival opined that the site was so large that no disturbance would have arisen – yet SNH gives that advice in the context of 10km sq sites[325]. Weather was not recorded although that could affect visibility and bird behaviour[326].

281. Dr Percival was asked whether a reader expecting work to have been consistent with SNH guidance would anticipate that watches would not exceed set times; that birds should be allowed to settle; that walkovers should not occur during VP survey; that VPs should not move; and so on. Once made to concentrate on expectation rather than reciting what he had chosen to do, he accepted that in many respects he had not complied. In some cases, such as the 10 minute settling in time, he protested were not

[321] CD8.76, par.131

[322] CD8.89 Fig 1

[323] CD8.76, p.44 par. 4

[324] CD8.76, p.44 par 4

[325] CD8.76, p.43 par 2

[326] CD8.76, p.43 par.3

identified in the 2005 guidance but came in later SNH advice. Nonetheless he had ignored what was good practice and is now enshrined in the 2013 advice[327].

282. SNH 2005 is so insistent that viewpoints should be accurately located that it suggests marking them on the ground[328]. The explanation that it would complicate collision risk as the viewshed may be different is, it is true, contained in the 2013 advice. Dr Percival first gave the reason for relocating one viewpoint as giving more information about the development further south and then claimed that the viewshed was the same. Both cannot be right.

283. It was suggested to Dr Percival that there were only 2 ways in which the departures from SNH guidance could have occurred. Either he was misled by the observers who failed to tell him they had so departed or, alternatively, he knew about the departures and chose not to note them in the ES. At that point Dr Percival, who had until then claimed such ownership of the ES ornithology chapter that he could correct typographical errors, admitted he had not written it.

284. What he wished to correct was the statement that "A 1% mortality increase is generally considered to be a threshold, so that anything over a 1% increase would result in a significant decline in population". The suggested correction was that it would result in a "non-negligible effect"[329]. This persistent typographical error appears in the ES twice[330] and is repeated in the SEI. It forms the basis of all the assessments as can be seen from the Tables in both documents[331].

285. He accepted under cross examination that "non-negligible" must include any impact save negligible: hence low, medium or high. Despite identifying the red kite as of low sensitivity the collision risk mortality increase exceeds 1% by an additional 0.4 to 0.6%[332] yet the result was judged "minor-moderate". A 40 to 60% increase above the level at which a population significantly declines is somewhat difficult to swallow. No doubt that is why Dr Percival wished to alter the text written by the Arup ornithologist.

286. The ES[333] acknowledged an impact of moderate-major on the roosting golden plovers. This was based on a high sensitivity but a medium magnitude of impact. Clearly that would not do so the SEI lowered their sensitivity to low, indicated that numbers had proved lower in the second year, and not surprisingly reduced the level to

[327] Document CCC24e, par. 3.8.7

[328] CD8.76, p. 43 par 2

[329] Document RES24

[330] CD1.4, par. 7.9.35 & 7.6.18 and CD1.5 p.5 and par. 18

[331] CD1.4 Table 7.14 p.219, Tables 7.15 and 7.16 p.220; CD1.5 Table 5.1 p. 18, Table 5.2 p.19, Table 5.3 p 20

[332] CD1.4, par. 7.9.35 p.219

[333] CD1.4, p.220 par.7.9.42

moderate and not significant. This is a site where flocks of over 1100 birds have been observed: not just 1% of the Welsh winter population but something approaching 11%.

287. Not satisfied with that, the 2013 Collision Risk Modelling Sensitivity Testing decided to inflate the Welsh population and then to run the earlier dubious data through a different model. With this new model no significant impacts are discerned. Dr Reed's evidence regarding population numbers and his criticisms of the data collection are to be preferred. The inconsistency in model utilised by the 2013 testing and the earlier ES and SEI suggest either they did not know what they were doing, twice, or they have chosen to alter it to achieve more promising results.

288. An ES is supposed to be comprehensible to the lay reader. It clearly wasn't an easy read for Mr Keenlyside. Impacts are assessed against regional (do they mean Welsh? Some part of Wales? It is not defined), Welsh or UK figures. National figures in Wales means Welsh figures. It gives sensitivity for breeding birds but not non-breeding birds and disagrees with the results of its own matrix. Calculations include 31 day February's and omit the darkling hours when plover leave roosts or nests for foraging areas[334].

289. The SEI reduces the residual impact on roosting birds (wintering golden plover) by providing foraging areas without any evidence to justify a shortfall in food supply. This "mitigation" to be provided includes fields of a size disliked by the species; hedged about to provide vantage for predators and close to an operating farmstead and wind turbine. Similar problems affect the proposed wader scrape; there is no baseline for the "increased invertebrate areas"; and there is no literature support for plover enjoying seed eating or foraging in winter stubbles[335].

290. In defiance of all guidance walk over surveys are used to supplement viewpoint data, the latter being directed towards collision risk, the former to provide a snap shot of site usage. Passage data was not collected but in oral evidence Dr Percival indicated that in his view the golden plover were not wintering but on passage. In which case, insufficient data were collected in each year- as recognised by CCW. No cumulative impact on either target species was provided despite a red kite having been known to have been killed at Alltwalis. Bellebaum[336] notes that kite are at high risk from multiple wind farms. Dr Percival relied on documents now specifically disowned by SNH[337] and on his own non-peer reviewed papers.

291. Unless extensive credit is given to Dr Percival's confidence in his own work, which CCC is not minded to do, the number of birds present on the site or the true degree of impact on the target species cannot be judged. The only conclusion that can safely be reached is that there may well be more significant impacts than those identified in the ES and SEI and that the proposed mitigation cannot reduce them. In these circumstances, there will be conflict with UDP policy UT6 (i).

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[334] CD8.76, par.53

[335] CD 8.34 refers to winter sown cereals not stubbles

[336] CD8.7

[337] Document CCC24d

Habitats

292. If one wishes to ascertain whether the net effect of a development is beneficial or adverse first one has to know what is lost and then what is offered in recompense. TAN 8 advises "The development of a wind farm is often a major civil engineering project and thus there are potentially very serious implications for bio-diversity. The major ecological impacts are most likely to be associated with site infrastructure rather than the turbines themselves….[338]"

293. Here we have tracks of varying but unspecified dimensions, with differing profiles – raised on banks, sunken within them, level – accompanied by none, one or two ditches or swales, having available for reinstatement verges, shoulders or edges at no known angle of repose. We do know that the development would be sited not just in the largest area of wet heath in Wales, an Annex 1 habitat[339], but would be located within that part of it which best satisfies the Common Standards Monitoring criteria for favourable status[340].

294. CCW takes no issue with the Ben Averis survey[341]. Although having no baseline to judge whether the condition of the overall heathland was unfavourable, recovering or declining it appears a professional piece of work. One has to put it in context: the condition of the heathland matches or exceeds that of SACs designated with the object of preserving such habitat. The 'Vegetation and Grazing Assessment Survey' conducted by Ms Rendle in 2013 had a baseline: that of the ARAD overgrazing survey 10 years before. At least in that respect matters were improved.

295. There was a compelling overlap of results between Rendle[342] and Averis. The major part of the development on Mynydd LLanllwni, tracks, turbines, pads and foundations, lies within the best area of wet heath. Mr Robinson was asked if CCW's Jan Sherry had met him before the Averis study was conducted. If so she could not have had the benefit of it. In re-examination it was extracted that she must have seen the Phase 1 habitat map which showed the whole of Mynydd Llanllwni to be wet heath. Well, of course she knew that. What she did not know was that 9 out of 41 plots which scored as favourable lay within the development area.

296. It was suggested that Ms Carmichael's maps indicating the 50% less or more were inaccurate as having failed to take account of the other criteria in the paragraph[343]. Checking the Ys and Ns will show that she had taken that full description into account. Her map heading was a mere identifier. It differed from that of Ben Averis' map 6 in

[338] CD3.2, par.2.2

[339] CD7.1

[340] CD7.18

[341] CD7.15

[342] CD7.16

[343] CD7.15, p.30 Wet Heath condition Table, par. indicating types of vegetation cover

using that criterion and not the 75% criterion. Her object in providing the maps was twofold: to superimpose at a sensible scale the infrastructure development missing from the Averis maps and to provide an additional condition indicator.

297. Other cartographic gems which emerged were the 1880 OS map[344] showing that the common did not include the additional fields which Mr Davies had suggested supported his view that farmland readily reverted to heath. The Topographic Wetness Index[345], a contour map with the mountain shaded mainly brown and purportedly showing that groundwater was not responsible for the wet conditions underfoot. The map was produced with no context so that comparison could be made with adjoining land and no information of when the data had been produced. Whether the means of assessment, the lidar surveys and so on, take no cognisance of weather conditions, such as the wet summer of two years ago or this year's drought, is not known, but it appears to contradict the ES. That says[346] "infiltrating rain water generates seasonal perched water tables in the near surface layers".

298. What became rapidly apparent about Mr Robinson was that he had no experience of dealing with Welsh commons, neither the practicality nor the legislation. Most of his experience was in Scotland where such common land does not exist. His experience was based on experience of sites where the landowner and tenants could control grazing pressure or erect fences at will. Entering upon common grazing to "cut and bale brash" at a rate of 2:1 brash to reinstated area, potentially as much as 56ha of it, in the teeth of 140 rights holders, most of whom are bitterly opposed to the application, appears to the LPA to be fraught with difficulty. If, as has already been demonstrated, the landlord has no right to do so and cannot authorise another.

299. He did acknowledge that it would be beneficial to have the graziers on board but had no fallback if his plans to cut turfs, mow, bale and spread or exclude stock were impermissible.

300. Mr Robinson's experience appears in the main to have concerned restoration schemes designed to put right the ills that man has wrought. He has been involved in reinstating blanket bog habitat after clear fell of commercial forestry or after previous drainage works had damaged the bog. That is very different to what is proposed here.

301. As Mrs Carmichael's evidence and the Carmarthenshire LBAP sets out, here we have a valuable Annex 1 habitat, a mosaic of upland heath vegetation, made up of wet heath in the centre of the site with dry heath[347] to the sloping periphery and including areas of mire and nibbled grasses. This is valuable not only in its own right but for the diverse, valued and often rare, bird species that use it. In such circumstances there is a duty to take steps to secure the objective of "preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the United

[344] Document CCC28

[345] Document RES25

[346] CD1.4, par. 9.7.10

[347] CD7.39 at 2.14-2.15 identifies the differences between the wet and dry

Kingdom" and to "use all reasonable endeavours to avoid any pollution or deterioration of habitats of wild birds".[348]

302. As Mrs Carmichael points out and supports with research papers[349] the result of restoration is generally less species rich and poorer in quality than what was replaced. She noted particularly the difficulties of sustaining relocated *Erica tetralix* in the long term. It should be noted that there has been no soil sampling undertaken for the "research plots" and no scientific assessment of the dryness of the sites: there can be none for the track edges as we have no idea of their form. Steep slopes such as accompany ditches are, as Mrs Carmichael advised, generally dry.

303. The inchoate and incoherent HMP says that turves would be translocated to create dry heath on Plot 1. However turves are to be obtained from within the development footprint: that is from wet heath areas. These so called "research plots" would not inform site restoration, are provided with no control sites, and must, implicitly, anticipate better or worse results. They are in total area something over half the permanent loss admitted and a very small proportion of that which it is intended to disturb.

304. Mr Robinson's one answer to the lack of a definitive plan for mitigation was "good management including an ECoW". On the whole CCC would like to see a well thought out and documented plan which is enforceable. The fencing/shepherding proposals and the change to cable trench construction have already been mentioned. A further change was the rapid reinstatement of the track edges: the habitat would be restored by turves within 1-2 weeks. This is in direct contradiction of the HMP upon which CCW were consulted for the SEI indicates that from the 24ha disturbed (i.e. temporary construction compounds and the wider construction access tracks) top soil would be removed to 10cm including the humic layer; these soils would be re-spread following construction work either in late winter early spring or late summer if there is no drought; heather bales and brash would then be spread over them at 2:1 donor to receptor site (i.e. 48 ha of cutting and baling)[350]. "Bales can be stored on site for up to 14 months…." Needless to say there is no location identified for such storage.

305. The differences between the careful and measured approach of the experienced Mrs Carmichael and the hopeful approach of Mr Robinson are patent. Mr Davies is a Chartered Surveyor rather than an ecologist but he claims experience as having steered the Heather Trial Project at Bryhenllys Open Cast in 1990-93. It is clear from the report provided that the history of the site includes an area previously poorly restored and that the later heath restoration was a failure[351]. More weight should be

[348] CD7.22 R.9A

[349] E.g. CD7.34

[350] CD1.5, par. 32.2 p.17-18

[351] Document CCC26, P 4 & 5

placed on Mrs Carmichael's evidence and the useful document 'Constructed Tracks in the Scottish Uplands' SNH 2013[352].

Historic Landscape and Setting

306. EIA has an unfortunate habit of slicing the environment. Nowhere is the need to put it back together more apparent than when discussing the impact on historic landscape. Heritage features, such as the nationally important SAMs, are at once elements adding value to landscape and assets to which the landscape setting adds value. The heath cover, topography, open views, tranquillity and empty timelessness of the landscape are relevant to both studies.

307. Mr Trehy considered the importance of the long unchanged landscape, considering both use and appearance. He set no bounds to setting save that recognised by Cadw and EH[353]. EH guidance[354] on settings indicates that they are now effectively unlimited : "it can be understood that setting embraces all of the surroundings (land, sea, structures, features and skyline) from which the heritage asset can be experienced or that can be experienced from or with the asset. Setting does not have a fixed boundary and cannot be definitively and permanently described as a spatially bounded area or as lying within a set distance of a heritage asset." Dr Carter agreed that this was the biggest change recently in understanding. He accepted that there was no basis for his setting limits to 2km for instance. The position is now stabilised contrary to what is noted in his evidence[355].

308. In his assessment[356] he doubted the importance of view to the constructors of the cairns or the relevance of intervisibility. Nonetheless, he accepted that the Quentin Bougeois study[357] expressed three main positions, all of them visual. That paper expressed the view that modern visitors can often be seen standing on top of a barrow to admire the view- suggesting that some at least have commanding views[358] - and also addresses the importance of intervisibility within a cosmological landscape.

309. He dismissed the relevance of the Information Board's reference to the burial mound being "evidently sited to be prominent and impressive in an open landscape, visible from afar", on the basis that what went on a board would not necessarily go into an academic paper. No doubt he is right, information on boards tends to be concise, but he produces no evidence to suggest that Cambria Archaeology in endorsing that sign were being disingenuous.

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[352] CD7.44

[353] CD5.1 & CD5.2, Document CCC15, par. 5.4-5.6

[354] CD5.4 par 2.2

[355] Document RES14, p.12 par 5.5

[356] Document RES15, Appendix 3 p.11

[357] Document CCC16, Appendix 10 p. 105- 106

[358] Document CCC16, Appendix 10 p.106

310. His assessment identifies that the impact on the significance of these assets would arise "through eroding the ability of a visitor to experience and appreciate the open panoramic views from the hill top setting of these monuments[359]" and accepts that the setting of these assets makes a positive contribution to significance, but seeks to limit the views over which that would be appreciated[360]. For Crug y Biswal[361], Crugiau Giar[362], and Crug Penheol[363], he concludes that the impact would be of slight magnitude. A slight magnitude of change to high value/sensitivity receptor is generally taken to result in an impact of EIA significance.

311. Dr Carter disagreed with the assessment of Dr Bestley in the Cambria Archaeology Report[364] prepared for CADW in 2001, a paper he had failed to reference. Crug y Biswal and Crug ap Iswal were not a pair of round barrows but a ring cairn and barrow in his assessment. Yet it was clearly an important element of Dr Bestley's research to identify such pairs[365]. However he agreed that Crug ap Iswal might be a heavily robbed round barrow and confirmed that he had not carried out any archaeological investigation on the site.

312. Dr Carter accepted that he had no evidence that the heathland landscape had ever been different. That lack of change is important. EH notes: "The settings of some heritage assets may have remained relatively unaltered over a long period and closely resemble the setting in which the asset was constructed or first used. The likelihood of this original setting surviving unchanged tends to decline with age and, where this is the case, it is likely to make an important contribution to the heritage asset's significance*.*"[366]

313. He was not minded to attribute weight to the continued recognition of the monuments as places of spiritual importance, people commonly associated hill tops with spirituality. He also discounted the continued funerary use. Mr Trehy's recognition of the important link between past and present, the communal and spiritual value of these monuments, expressed in modern memorials, scattered ashes and the modern Peace Cairn is to be preferred. It is supported by Conservation Principles[367] which says "Spiritual value attached to places can emanate from the beliefs and teachings of an organised religion, or reflect past or present-day perceptions of the spirit of place. It

[359] Document RES15, Appendix 3 p.19

[360] Document RES15, Appendix 3, p.11 par 3.6

[361] Document RES15, Appendix 3, p.16 par 3.35

[362] Document RES15, Appendix 3, p.17 par 3.42

[363] Document RES15, Appendix 3, p.18 par 3.48

[364] Document CCC16, Appendix 5

[365] Document CCC16, Appendix 5 p.50 & 64

[366] CD5.4 p.7

[367] CD5.2

includes the sense of inspiration and wonder that can arise from personal contact with places long revered, or newly revealed. Spiritual value is often associated with places sanctified by longstanding veneration or worship, or wild places with few obvious signs of modern life. Their value is generally dependent on the perceived survival of the historic fabric or character of the place, and can be extremely sensitive to modest changes to that character, particularly to the activities that happen there.[368]"

314. The assessment steps in the EH settings document[369] supports the adverse effects that Mr Trehy found in respect of Crug Penheol, where 4 turbines would be positioned within 1000m and 2 within 400m; Crugiau Giar where a significant impact arising from 8 turbines within 1km of which two would be at 374 and 452m respectively; Crug y Biswal where a substantial adverse effect identified and so on.

315. The Terence O'Rourke assessment process provides a clear methodology identifying such things as "Undesignated landscapes of outstanding interest" – which appears consistent with the LANDMAP assessment – and under Medium areas associated with intangible Cultural heritage activities evidenced by local registers – the Peace Cairn is in the Historic Environment Record.

316. The evidence of local residents has given some measure of the spiritual value which they ascribe to these monuments and their setting. Their evidence and Mr Trehy's supports the view that the proposal conflicts with UDP policy UT 6(i).

Commons Applications

317. The SMLlG's position on the materiality of the applications to the planning determination is endorsed.

318. The applications are consents which require EIA and it is accepted that the information within the ES and SEIs contain much of the environmental information which will have to be taken into account in determining the s.16 and s.38 applications. Regard must be taken of the matters set out in the *Commons Act 2006* under s.39:

(1)In determining an application for consent under subsection (1) of section 38 in relation to works on land to which that section applies, the appropriate national authority shall have regard to

(a) The interests of persons having rights in relation to, or occupying, the land (and in particular persons exercising rights of common over it);

(b) The interests of the neighbourhood;

(c) The public interest;

(d) Any other matter considered to be relevant.

(2)The reference in subsection (1) (c) to the public interest includes the public interest in—

[368] CD5.2 p.32, par. 59-60

[369] CD5.4 p. 19 & 21

(a) Nature conservation;

(b) The conservation of the landscape;

(c) The protection of public rights of access to any area of land; and

(d) The protection of archaeological remains and features of historic interest.

(3) Consent may be given under section 38(1)—

(a) In relation to all or part of the proposed works;

(b) Subject to such modifications and conditions relating to the proposed works as the appropriate national authority thinks fit.

319. Similar interests are set out in s.16. It is accepted that the public interest in nature and landscape have formed part of the Environmental Information and the debate at the Inquiry. However the test within the *Commons Act* is not, with regard to these issues, a balance of harm to those interests against a need for renewable energy. Their interest is expressed as being in conservation – i.e. making no change. Equally, with reference to the historic feature of the common itself the public interest is in protection – that is preservation from harm.

320. The balancing exercise can only come in under ss (1) (d) any other matter considered relevant. The need for renewable energy is always promoted as being in the public interest but does not feature in the list of interests to take into account, although it is accepted that it is an inclusive rather than an exclusive list. If it is to feature as a relevant matter the healthy position of Wales in moving towards its 2GW aspiration must weigh heavily against the express interest in nature and landscape conservation. Conservation can be achieved without imperilling compliance with the UK's international commitments regarding its energy targets.

321. CCC is much more concerned with the lack of involvement with the commons rights holders. At Mynydd y Betws the commoners owned the common and supported the applications, here they do not. The appellants' team has made no effort to establish stock numbers or to investigate, so far as can be seen from the evidence, what impact this may have on farm and family incomes and it is doubted that sufficient information has been submitted to have proper regard to their interests. From those who have appeared at the Inquiry it is clear that the development is unwelcome. What is needed is a clear indication of whether this would be beneficial, by providing extra grazing, or harmful by damaging the major resource of the existing common grazing but that information is not available.

322. With regard to the late idea of giving them all some money by a condition, attention is drawn to ss (3) (b) which deals with conditions which may be applied. Such conditions and limitations that may be considered are those which relate to the proposed works, so the amount or type of work to be approved might be altered, but this does not permit a requirement for the payment of money to any party.

The Case for the Save Mynydd Llanllwni Group (Documents SMLlG1-6 & 14)

The material points are:

Introduction

323. It is clear, not only that the site chosen for this wind farm proposal is special, but also that the proposal itself is not. The appellants'/applicants' evidence has displayed inattention to the detail of this place which flies in the face of WG policy "to secure ... energy provision for Wales, whilst avoiding, and where possible minimising environmental, social and economic impacts".[370] Mr Stewart's reluctance under cross-examination to accept that WG's policy in this regard means what it says is typical of the way in which this proposal has been developed and promoted. Even inside a SSA, it is not Government policy that anything goes.[371] Policy calls for a site-specific, careful response from promoters, both in terms of site selection and project design. This scheme has been tested through the medium of public inquiry and has, at every turn, been weighed in the balance and found wanting.

324. There has, unsurprisingly, been no substantial challenge to SMLlG's witnesses. Much of what they have said has come from the heart and is not susceptible to sensible cross examination, but that does not make the evidence any less valuable. It is different in character from the evidence of professionals, but it speaks to many of the determining issues in this case.

The effect of the proposal on the character and appearance of the site and the surrounding rural area which is designated as a Special Landscape Area

325. The only proper conclusion on the evidence is that the proposals would have serious detrimental effects on the character and appearance of the site and the surrounding rural area. Because of the SLA designation and accompanying policy, the proposal is contrary to the development plan. UDP policy EN16 accords priority to the conservation and enhancement of the landscape. This proposal would, by contrast, subordinate landscape and visual considerations to the interest in the generation of power. Mr Stewart admitted – even asserted – this in his evidence.

326. Despite this obvious conclusion of harm, it is necessary to identify the nature and extent of the harm to the landscape. The study of landscape in Wales, and particularly the development and compilation of the LANDMAP information resource, has led the way in articulating the multi-faceted nature of landscape. The European Convention on Landscape[372] states that "the landscape is an important part of the quality of life for people everywhere", thus recognising the all pervasive nature and significance of landscape. This insight is vitally important in this case because the landscape in question functions and is valued on so many different levels.

327. As Mr Goodrum agreed, it is important, in approaching development management questions, to establish the value of the receiving landscape. The new GLVIA (3rd

[370] CD3.1 par. 12.8.6

[371] See, e.g. CD9.6

[372] To which the UK and Wales became signatories in 2006, after the publication of TAN8

edition)[373], which takes into account the UK's recognition of the Convention since the 2nd edition, highlight that the assessment should include consideration of the "value attached to different landscapes by society, bearing in mind that landscape may be valued by different stakeholders for a whole variety of reasons".[374] That advice is particularly pertinent in this case because of the common land status of the site; the newly enacted statutory tests for works and exchange land consents accord with this authoritative professional guide to landscape and visual assessment by requiring consideration of the importance of the commons to rights holders, neighbours and the general public.

328. GLVIA recommends that a review of existing landscape designations will usually be the starting point and, here again, it reflects the statutory position which directs us firstly to the development plan. As noted above, the adopted and emerging plans accords the land value as a SLA. Moreover, the designation has recently been reviewed on behalf of the LPA for the emerging LDP and affirmed in relation to the site (notwithstanding some changes elsewhere). PPW[375] states that such designations can add value to the planning process particularly if they are informed by community participation and reflect community values. SMLlG's evidence strongly corroborates the position adopted by the democratically elected Council that this landscape is "Special".

329. The LANDMAP system is highlighted in GLVIA as a means of evaluating landscape. It is also commended in PPW as a national resource to provide the basis for a Wales-wide approach to landscape assessment.[376] The recent NRW 'Note 3 on LANDMAP and Wind Energy'[377] sets out NRW's position which is that LANDMAP should be utilised inside, as well as outside, SSAs. The Note also helpfully explains that all 5 layers need to be referred to and that it is important to use it to understand relative value; therefore, it is not surprising that, whilst not to be regarded as determinative of sensitivity to or acceptability of change a concentration of highs and outstanding can be informative.

330. Therefore, since it is to be used in decision making inside SSAs, it is particularly important to bear the LANDMAP data in mind, especially when considering the site by site and proposal by proposal significance of the oft-quoted implicit objective to accept landscape change.[378] Knowing what we now know about the value of this site in an all-Wales context (a concentration of outstanding and highs within LANDMAP), the question for the decision maker must be: is it acceptable to suffer this degree of landscape change on and within the influence of this particular site? To presume

[373] CD4.1

[374] CD4.1, p.80, par. 5.19

[375] CD3.1, par. 5.3.11

[376] CD3.1, par. 5.3.13

[377] CD4.4

[378] CD3.2 Annex D, par. 8.4

acceptability by virtue of SSA status and the inevitability of landscape harm and say that this is all allowed for under policy is fundamentally wrong. WG's policy aim is to avoid and where possible minimise landscape and visual impacts amongst others.

331. The Inspector's question about how to use LANDMAP to ensure that a landscape's key characteristics are recognised is addressed in the NRW Note insofar as it advocates consultation of all 5 layers and the totting up of outstanding and high attributions of value. In this case, the site scores outstanding for Landscape Habitats and Historic aspects, high/outstanding overall (with an outstanding subset for rarity) for Landscape and high for Visual and Geological aspects. The only low is for Cultural. As the LPA demonstrated that attribution has to be treated with considerable caution but, to the extent that it is helpful to consider this material, it is relevant to note, that in this landscape[379] the possibility of wind farms due to the SSA is viewed as inimical to its cultural value. Overall, however, there is a concentration of outstanding and high evaluations which the NRW Note on the use of LANDMAP in wind farm planning sees as informative.

332. There are common themes to the factors which are used to explain the attributions – each of the outstanding/high evaluations makes reference to the area's upland, moorland characteristics.[380] Whilst the *Commons Act* criteria will be considered separately, it is significant that the WG, in deciding to bring the new provisions into force in Wales, noted, as a benefit of the new system, that it would "achieve an appropriate level of protection for common land which recognises the value of the open and unenclosed nature of many commons".[381] Open, upland moorland with distinctive heathland vegetation and panoramic long views are of the essence of this place and the reasons why it is valued so highly within Wales in the professional and Governmental material.

333. The Group's evidence, together with the SLA designation, demonstrates the community value ascribed to the site and its immediate surroundings for similar reasons. Mr Ablett's richly illustrated statement shows how a local photographer has

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[379] Which is what matters, not Mr Goodrum's examples drawn from other parts of the country.

[380] Visual and Sensory: *"Mynydd Llanllwni is important in a county context for its 360 degree views, its feeling of exposure and its heather moorland vegetation, all of which contribute to its great sense of place. It is also easily accessible from council roads. It therefore is evaluated as being of high to outstanding importance. It scores outstanding for rarity"*.

Historic Landscape: *"Outstanding – this area scores highly in all evaluation categories. It is a good example of an upland landscape with nationally important components."*

Landscape Habitats: *"Extensive area of wet heath, acid grassland associated with the uplands of Mynydd Llanllwni, Rhos-Wen and Mynydd Llanfihangel-Rhos-y-Corn ... Steeper ground towards the edges of the uplands are more freely draining and dry dwarf shrub heath and acid grassland communities dominate; Outstanding"*.

Geological Landscape: *"High. Major upland area in Carmarthenshire, potentially with surviving periglacial etc features"*.

[381] Document SMLlG12

identified and responded to key characteristics of the site's landscape: its prominent and distinctive skyline, a cap sitting on top of small, green, fenced – or hedgerow edged – improved grassland, cattle grids at every location where a road enters onto the mountain which complete the enclosure and isolation of the area from farmland, an open, treeless, undeveloped, heather moor land unencumbered by man made structures, the explosion of purple heather in late summer, other rare mountain vegetation. His visual appraisal shows the widespread visual influence of the Mountain, which is, again a function of many of its key landscape characteristics.

334. Mr Wilson spoke, amongst other things, of the site's community significance, modern inhabitants, like their ancient forbears, identifying it as a place for marking rites of passage and communal celebrations. Visitors respond to and record what the GLVIA calls "aesthetic or perceptual dimensions which contribute to the character of the landscape..."[382] - the area's peace, quiet and seclusion, as well as its strong and simple beauty.[383]

335. What would be the impact of the proposed wind farm on this landscape character? The nature of its key characteristics, coupled with the relative compactness of the Mountain mean that the effects of the proposal would be overwhelming. On site, it is helpful to use the 80m anemometer mast and the radio masts as yardsticks. At c.127m tall, with moving blades and an undisguised and undisguisable man-made, engineered appearance, the 21 turbines would add a new and wholly discordant feature to the Mountain. The ES recognised significant effects upon the landscape character of Mynydd Llanllwni and views of it, concluding that it would be characterised by wind farm development.

336. That finding of significant effect was made against a baseline which, contrary to Mr Goodrum's assertions, included Alltwalis as an operational wind farm. It was also reached in the knowledge of and allowing for the cumulative effects of the Brechfa Forest schemes. Ms Bolger reached a similar conclusion.[384] Mr Goodrum reduced some of the significance of effects on the basis that Alltwalis is operational (no change from the ES, as he had to accept) and the fact that Brechfa West is now a commitment, though recognising significant impacts on the Mynydd Llanllwni character area. Even allowing for those developments – the first existing and the second permitted in the forestry – one could not describe Mynydd Llanllwni as a wind farm landscape.

337. Mr Goodrum did not see it as part of his role to reach a judgment about whether such effects would be negative, positive or neutral. Ms Bolger was less reticent and clearer and more convincing. Like the Group's witnesses, she regarded such changes as harmful.[385] Whilst SMLlG's witnesses are not professional landscape experts, they

[382] CD4.1 p.80, par. 5.19

[383] Documents SMLlG4 par. 55-56 & SMLlG5 par. 5 &15

[384] Document CCC2 p.35

[385] Document CCC2 Section 9

are, in the true sense of the words, amateurs. Mr Ablett's photographs[386] and the oral evidence of all four reflected hundreds, if not thousands, of hours spent on and around the site. Messrs Goodrum and Stewart, by contrast, had spent a handful, some of them in, or in and out of, vehicles and all in a work context. Several witnesses spoke of a paradox about the Mountain – its feeling of wildness/remoteness (signalled by the cattle grids) despite its relative accessibility. This combination, as well as its particular habitats, historic/cultural heritage and continuing celebratory use make it uniquely valuable and highly sensitive to the sort of changes proposed.

338. Mr Goodrum had not, apparently, been asked to or himself advised that it was necessary to assess the impacts of tracks, borrow pits, compounds or the excavation of holes for the turbine footings. This was an extraordinary omission which, taken with the aspects of landscape whose characteristics he had not fully considered, diminished the value of his evidence. A further, significant, flaw in his evidence was the reliance which he placed, in common with all the appellants/applicants team, on the HMP as mitigation. For reasons outlined below, no weight can be placed on that part of the proposal. The particular significance of this point in the landscape context is:

(i) that absence of a deliverable HMP would increase the severity of impacts upon the outstanding landscape habitats; and

(ii) that CCW's consultation response will have been made on the understanding that there would be effective habitat fabric mitigation; the inability to make good this aspect must now cast doubt on the reliability of their non-objection.

339. Finally, the Group maintains that the ES (and Mr Goodrum's evidence) are deficient in that they have made no attempt to assess the effects of proposed grid infrastructure. Quite apart from the legal point, to which RES has given no substantive answer, PPW seeks "*an integrated approach ... towards planning renewable and low carbon energy developments and additional electricity grid network infrastructure*".[387] That has not happened in this instance, with the result that the actual impacts of achieving renewable energy from this proposal have not been fully assessed, although the appellants/applicants invite the Inspector/Ministers to give full weight to the benefits of that power.

The effect of the proposal on the living conditions of neighbouring residential occupiers and the enjoyment of those using the site and surrounding area for recreation/amenity purposes with particular regard to visual impact

340. SMLlG has contributed to the debate about noise conditions, recognising, as advised by Mr Sharps[388], that the proposal would mean a deterioration in their noise environment which national policy and ETSU guidance countenance. Mr Sharps has given expert evidence both as to the acceptability of absolute levels (which is, apparently, now partly accepted by the appellants/applicants). Issues remain as to

[386] Documents SMLlG1 & 2

[387] CD3.1 par. 12.8.14

[388] Documents SMLlG10 & 11

daytime levels and the necessity for an AM condition. ETSU points to the desirability of striking a balance between power generation and residential amenity. The only material which has been forthcoming from RES to assist in performing this exercise suggests that the difference in power output would be less than 1%. Such a difference, it is submitted, supports Mr Sharps' argument.

341. The fact that the turbines could not run at fully productive level, however, illustrates the poor choice of site. As noted above, although the Mountain feels wild and remote and these qualities are undoubtedly valued both by those who live near it and those who come to visit, the proposal would be close to several residential properties. There is no right to an unchanged view, but it is clear, from an inspection of the area, that many properties have been designed to benefit from their peaceful surroundings, in terms of their orientation. Moreover, as soon as residents step outside their properties they would, in many instances, experience the continued visual and aural impact of the turbines as they go about their daily lives. The chosen viewpoints do not, in all circumstances, do full justice to this effect, as Mr Ablett explained. The Group has sought to ensure that the Inspector's site visit itinerary fully reflects the kinetic nature of the experience which is represented in the static shots produced in Mr Ablett's Visual Appraisal[389].

342. Mr Keenlyside[390] raised a particular difficulty associated with his work as an international singer and eminent singing teacher. ETSU is not directed towards such particular and sensitive considerations. Its standards do not aim to preserve the status quo. To that extent, there would be disruption to the quiet which is a special and important feature of Mr Keenlyside's property, Clyn Melyn. Because of his work with young singers, the issue is of wider significance than just his personal comfort and that of his family.

343. Recreational impacts were described in detail by Mr Wilson[391]. The only matters where he was challenged were horse-riding and fears of approaching turbines. He was quite clear that, irrespective of any Scottish guidance to horse riders, many local equestrians would be put off by the presence of turbines, deeming it too hazardous to ride near them. Similarly, the proliferation of stone surfaced tracks would inhibit the hitherto free cantering/galloping which has been possible on the Mountain due to its exceptionally good riding conditions. He poignantly described meeting a group of local walkers whose enjoyment of walking at Alltwalis has been destroyed by the turbines there.

344. Fears on the part of residents and recreational visitors are capable of amounting to material planning considerations. In this case, such fears have some foundation. The Vestas manual is quite clearly not limited to maintenance situations.[392] This advises

[389] Documents SMLlG1 & 2

[390] Document SMLlG3

[391] Document SMLlG4

[392] Documents SMLlG9, see cover sheet and the reference to children.

giving turbines a 400m wide berth and suggests fencing if children cannot otherwise be excluded. As well as visual impact when on the Mountain, there would be turbine noise. Impacts on birds and habitats are impacts on people too because of the enjoyment which people derive from observing flora and fauna, bee keeping, bird watching and star gazing, as described by Messrs Wilson and Keenlyside. Lastly, the introduction of turbines, tracks, engineering operations and security cameras would severely diminish enjoyment of the time depth of the place to which locals and others have responded in terms of interest in history and particularly the ancient cairns.

The effect of the proposal on habitats, birds and ecological interests

345. For the most part, the Group confines itself gratefully to commending the evidence of Dr Reed and Ms Carmichael. Mr Keenlyside had, as he explained, also expressed deep concerns about the adequacy of the appellants/applicants ornithological work. The significance of these flaws is twofold:

(1) it casts doubt over the reliability of Dr Percival's conclusions; and

(2) because of the concern which it must raise about the non-objection of CCW and RSPB.

These points were fully covered by CCC.

346. Mr Keenlyside expressed further, residual concerns, however, which are relevant in the context of s.40 (2) of the *Natural Environment and Rural Communities Act 2006*. This requires the decision maker, in exercising its functions, to have regard to the purpose of conserving biodiversity, so far as consistent with the proper exercise of his functions. Plainly, the quality of survey work and the appropriateness and deliverability of the HMP are fundamental to the discharge of this duty and, hence, the planning balance. This is another statutory duty which postdates TAN 8. The efficacy of the HMP is also fundamental to the validity of the RES case on avoiding or minimisation of environmental impacts in accordance with PPW. Impacts on birds via strike and general disturbance are acknowledged. A great deal of attention has focussed on particular species on the basis of the ES's 1% threshold of significance of impact. Apparently this figure should not be regarded as a threshold after all, due to a pretty thoroughgoing typing error[393].

347. Mr Keenlyside noted the presence on the site of bird species of extreme vulnerability because of their scarcity in the UK – hen harrier, merlin, goshawk and peregrine, for example. RES surveys[394] revealed the presence of these internationally and/or nationally protected species, confirming Mr Keenlyside's own observations, particularly of hen harrier.

348. The bird is in such a precarious condition in Britain that none managed to breed in England last year (2012). Survey effort and Dr Reed's unequivocally clear criticisms in this regard are highly material to this point. Dr Percival did not disagree that the position of these very rare birds in relation to the proposal should be approached on the basis of professional judgment as to risk, weighing likelihood of damage and

[393] Introduced in the cross examination of Dr Reed and pursued by Dr Percival

[394] CD1.4 Vol.2 (Written Statement) p.201, par. 7.7.4

seriousness of consequences. He agreed that heather moorland, which would be reduced quantitatively on the Mountain as a result of the proposals, is important in its own right and because it is the breeding habitat of hen harrier.

349. Dr Percival, however, had not been responsible for the decision by the assessor to rule out from further consideration hen harrier, goshawk, osprey and peregrine, for example. Survey adequacy is highly material, both to the number of sightings and the height of flight. For example, if individual birds had been missed due to inappropriate staff levels/fatigue or insufficient numbers of watching sessions to take in all weather conditions, the risk assessment could have been skewed. In turn, of course, this bears upon the "Rozenberg question" about consultation responses. Experience at other sites in Scotland is beside the point because hen harrier is not in quite such a desperate situation there – i.e. there is a greater concentration of population which enhances the chances of survival and reproduction.

350. In conclusion, it is not possible properly to conclude on the evidence:

(a) that impacts have been properly assessed; and/or
(b) that mitigation would be deliverable or effective to reduce impacts to an acceptable level; or
(c) that biodiversity would be conserved in accordance with the statutory objective.

The effect of the proposal on the setting of Scheduled Ancient Monuments

351. The Group has restricted its involvement in this issue to the question of perception on the part of recreational users. As the case of *East Northamptonshire DC, English Heritage and National Trust v Secretary of State for Communities and Local Government and Barnwell Manor Wind Energy Ltd [2013] EWHC 473 (Admin)*[395] makes clear, the assessment of harm to setting is a holistic exercise, not limited to "the ability of the public to understand the asset"; the contribution made by the setting of the asset to the overall public experience must be taken into account.

352. Messrs Ablett, Wilson and J Jones spoke of the significance of the site's role as the setting for the unusual pairs of cairns and the joy which the time depth of the Mountain brings to recreational users. That freedom from modern development and sense of connection with ancient times and civilisations would be severely impaired, if not totally destroyed, by the intrusion of the proposed wind farm. Mr Wilson's opinion is that "the legal right to walk would be made worthless in such an unpleasant landscape".[396] These are serious impacts, which must be weighed in the planning balance.

[395] Document SMLlG15, it should be noted that this case is subject to appeal, to be heard in late January 2014

[396] Document SMLlG4, par. 24

Whether, in combination with other developments, the proposal would exceed WG's capacity limit for this SSA G

353. SMLlG has not been party to the discussions on this point but notes the agreed position that 84MW have been permitted.[397] By the time that the Minister decides this appeal/these applications, it is likely that a decision will have been reached locally about Brechfa Forest East. If that scheme receives permission, then the amount of installed capacity would be 120.3MW. Whilst this figure is below the maximum capacity figure given in the Minister's letter of July 2011[398], the addition of Mynydd Llanllwni would take Area G considerably over the figure.

354. The Minister's letter is significant insofar as it expressly introduced for the first time the policy recognition that SSAs have "finite environmental capacity" for major wind farm development. That clear statement of policy is not qualified by the glosses which Mr Stewart sought to put on it. The role of the decision maker in this context is to apply policy and suggestions that the policy is in error or does not apply to Area G because of its grid circumstances fall foul of this well known legal principle.[399] As the rest of the evidence demonstrates, there are plenty of constraints and sensitivities which apply to this site which amply qualify it to be regarded as an example of land within an SSA which is not environmentally suitable for major wind power proposals.[400]

355. Similarly, although Mr Stewart baulked at accepting what WG's social and environmental policy aims are in relation to renewable energy provision, his stance is simply not reconcilable with:

(1) the careful use of language in PPW which refers to the planning system facilitating contributions to "renewable energy targets and aspirations"[401];
(2) similarly careful terminology in TAN8[402] and the Ministerial letter[403];
(3) recent clarification by the WG of the words "targets", "aims" and "potential" in the Energy Policy Statement[404] relating to its energy policy.

Mr Goodrum recognised that local people might very well feel that enough is enough. They do. They therefore applaud and rely on the Minister's recognition of environmental capacity in his July 2011 letter. It is a weighty planning consideration in this case.

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[397] Document RES28, par. 10.

[398] CD3.20

[399] Bushell v Secretary of State for Environment [1980] 2 AER 608

[400] CD3.2, par. 2.4

[401] CD3.1, par. 12.8.9 & 12.8.13

[402] CD3.2, par. 2.4

[403] CD3.20, 2nd par.

[404] Document CCC18, Appendix RJ11

356. Although the development plan[405] is dated, it does contain renewable energy policies (UT5 and 6) as well as a range of relevant environmental protection policies - EN16 (SLAs), EN20 (Commons) and GDC8 (Visual Impact and physical topography, specifically paragraphs (i) and (iii) – prominent skylines, landscapes, open spaces and the general locality). It should be noted that the reasoned justification to policy GDC8 specifically highlights as a policy aim: "To promote the careful consideration of siting and layout of developments which can contribute to energy conservation benefits".

357. The message of the development plan in relation to the proposal is quite clearly hostile: in accordance with s.38(6) therefore, the planning appeal should be refused unless the Plan conflict is outweighed by other material considerations. Clearly, as Mr R Jones rightly accepted under cross examination, there is a need for renewable energy, but the real question is whether that need is sufficiently strong to override the conflict with the Plan and the substantive (and substantial) harm which generates that conflict. In the Group's submission, it is not.

COMMONS ISSUES A, B AND C:

(a) The effect of the proposal on the interests of persons having rights in relation to, or occupying, the land (and in particular persons exercising rights of common over it);
(b) The effect of the proposal on the interests of the neighbourhood; and
(c) The effect of the proposal on the public interest, including nature conservation, the conservation of the landscape, the protection of public rights of access to any area of land, and the protection of archaeological remains and features of historic interest

358. As the Inspector observed in opening the Inquiry, there is substantial overlap between the issues arising under the planning appeal and those issues arising under the *Commons Act* applications. PPW policy is to the effect that common land is a finite resource and should not be developed unnecessarily, access to it should not be prevented or impeded unnecessarily, and its proper management should be encouraged. This is in line with the statutory purpose of protection of such land under the *Commons Act*. Likewise, UDP policy EN20 reinforces the importance of commons protection as a local planning objective. It was noted above that WG took a conscious decision to embrace a broader and more modern policy in relation to commons relaxations. This is believed[406] to be the first wind farm case in Wales to be considered under the new provisions, which has implications for the planning balance as well as the separate consideration required under the *Commons Act*.

359. SMLlG includes several members with grazing rights and they fall into the three categories of active, inactive and those who have licensed their rights to other graziers. There is overlap in terms of membership with the Graziers' Association and the principal active grazier. Messrs J Jones, Keenlyside and Wilson all own grazing rights by virtue of their ownership of property close to the commons. The evidence is

[405] CD2.1

[406] Mr Stewart was unable to point to another and the Welsh decisions included in the CD9 series were taken under the Inclosure Act 1845. English decisions under the new regime were taken against the background of extant planning permissions and were not joint decisions.

that the principal active grazier and the Grazing Association, for whom she was authorised to speak, as well as members of SMLlG, all strongly oppose the scheme, for good reasons falling fair and square within the statutory criteria.

360. Mr Stewart agreed that he had no evidential basis for suggesting, in relation to this proposal on these Commons, that everything would sort itself out and that people would become reconciled to the scheme. The results of RES's own public consultation on the *Commons Act* applications suggest the contrary. The Statement of Local Community Consultation[407] rightly recognised that "those who have grazing rights ... and in particular" (note, not exclusively) "those who exercise those grazing rights (the active graziers) are key stakeholders in the successful operation of this wind farm scheme, in particular in relation to the successful implementation of the Habitat Management Scheme."[408]

361. When asked the question: "Would you as an active or inactive grazier consider entering an agreement which would facilitate Habitat management on the commons?"[409] a mere 19 or the 147 registered graziers returned the form. Of those, 6 were active graziers, of whom only 4 answered Q5 in the affirmative, together with 10 inactive graziers. Therefore a total of 14 would be prepared to enter into a HMP agreement. Several of these have a property interest insofar as part of the development would be on their land and we know, from the evidence of Mrs Organ that the 14 do not account for a majority of the rights.

362. The proposed unilateral undertaking[410] is a tacit recognition of the lack of support amongst graziers because it simply proposes to hand over a sum of money to an unwilling Local Planning/Commons Registration Authority which equally lacks the ability to enforce the proposed HMP measures. Since the HMP is relied on by RES to mitigate adverse impacts and allegedly to improve the condition of the Commons, the case is fundamentally flawed in relation to several of the statutory criteria: the interests of the neighbourhood and the public interest in nature conservation and the conservation of the landscape, as well as the interests of those with common rights.

363. The Group's landscape and visual evidence, as well as its evidence about recreational access and activities, has been referred to above in relation to the planning appeal issues. It should also be taken into account under ss.16 and 38, analysed through the lens of the statutory test, an exercise which was noticeably absent from the RES witnesses' evidence.

364. The statutory language specifies that the relevant consideration is not just "the public interest in the landscape or nature" but in "nature conservation" and "the conservation of the landscape". Without an effective and deliverable HMP, the applicants' evidence does not stand up, even on their own admission, since all rely on

[407] CD1.2

[408] CD1.2, p.7, par. 6.4.2

[409] CD1.2, Appendix B

[410] Document RES35a-b

it to mitigate harm to and/or provide alleged benefits to the commons. On the hypothesis that the HMP could be implemented (which is strongly disputed), there is no convincing evidential basis for concluding that the statutory interests would be conserved. The word is not defined in the legislation, though s.61 (1) provides that nature conservation means "*the conservation of flora and fauna and geological and physiological features*". The Oxford English Dictionary defines the word to mean: "*to keep in safety, or from harm, decay or loss; now usually, to preserve in its existing state from destruction or change*".

365. Plainly, these objectives would not be served. Exchange land would take time to establish itself and might or might not prove attractive to the fauna (or indeed the human visitors to the area). Crucially, from the point of view of the latter and the protection of rights of access to features of historical interest, the summit of the Mountain, including the area of archaeological interest, would be interrupted by turbines and tracks. It is reasonable to assume that at least some recreational users and their horses would be put off by the intrusion of such enormous, moving and noisy structures. This would be the opposite of protection.

366. It would not achieve the statutory purposes of placing a much greater emphasis on the protection of commons and greens than the Victorian legislation did,[411] under which the Mynydd y Betws and Mynydd y Gwair applications were considered.[412] On a mountain walk (especially this mountain) whilst there are many joys to be experienced on the lower slopes, the summit is the natural goal. The ancients who walked up this mountain to build their cairns recognised this, as do the modern locals. "Fair exchange is no robbery", but purporting to replace the exhilaration of the summit with fields lower down is not a fair deal.

367. The interests of the neighbourhood would not be served by this proposal. As noted above, there would be visual and noise impacts both to individual properties and the wider area. Mr J Jones gives a summary of the assets and nature of the area, as well as the community's reaction to these proposals. He and others have spoken about what it is that visitors say draws them to the area and the extent to which catering for these people forms part of the local economy. This is, of course, familiar evidential territory in wind farm planning appeals, but the witnesses are speaking about this place and in many instances, their customers. Mr J Jones' unsurprising conclusion, as a local businessman and community leader was: "the vast majority of these people use the mountain because it is as it is, and that is why they come"[413]. He records that some people have already put their homes on the market in response to the proposals. The loss of such people (one is the 7th generation of his family to have lived in Llanllwni) impoverishes the neighbourhood in many ways, contrary to the social objectives of the legislation.

[411] Document SMLlG13, par. 7.5

[412] CD9.2 & 9.11

[413] Document SMLlG5, par. 14

Conclusion

368. This place is too special for a wind farm and the Group respectfully urges that the appeal and applications be dismissed.

The Case for Cllr L Davies Evans (Documents LDE1 & 2)

The material points are:

369. Cllr Evans is the ward member for Llanfihangel-ar-Arth which stretches from Alltwalis to Llanllwni. There has been a cloud of uncertainty over the north of the County, particularly Alltwalis, Gwyddgrug, New Inn and Llanllwni since this application was submitted nearly 3 years ago. The process has been long and slow and has had a profound effect on the lives of local people. Those whose houses are on the market are asked the same question by prospective purchasers – would the turbines be visible from the property and would the development affect the property?

370. Cllr Evans finds it difficult to comprehend how developers expect schemes which are incomplete despite the years spent in planning and researching them to be approved. The ES consistently states 'depending on choice of turbine, depending on ground conditions etc.' The statistics are misleading: how is it possible to state how many loads of stone would be required when they are unable to confirm the quantity to come from borrow pits, it is possible that all would have to be externally sourced rather than the 50:50 split indicated.

371. Tourism is an important element of the County's economy with a survey showing that visitors come to Llanllwni Mountain because of the glorious views, the tranquillity, and the opportunity to ramble, pony trek and fly kites etc. It is a popular location for notable artists and is used for personal family occasions: wedding and baptism photographs and scattering of ashes. The LANDMAP survey gives an outstanding score for rarity noting that whilst there are other areas of moorland in the County they do not share the same 360 degree views which could be considered important at the national level. A wind farm of the scale proposed would be detrimental and local businesses, especially bed and breakfast, other accommodation providers, inns and shops, would suffer badly.

372. Other wind energy planning applications have been approved because the County supports renewable energy but this proposal is contrary to so many policies and would have a detrimental effect on local residents, the economy and the SLA. Wind farms are not the only means of meeting renewable energy targets: the County has water resources and has solar panels located throughout. The original TAN 8 target for the Brechfa area was 90 MW. Alltwalis generates 23 MW, Brechfa West will generate 87 MW and Brechfa East is being processed at the moment.

373. There are times in life that one must say, not here. It would be appropriate to remember Chief Seatle's response to President Washington's message that he wanted to purchase the Chief's lands: 'Earth does not belong to man, man belongs to earth'. Last week Llangyndeyrn celebrated 50 years since the village was saved from being drowned to provide water for Swansea. The people of Llangyndeyrn agreed that Swansea required water but knew that other areas were far more suitable for a reservoir. The people of North Carmarthenshire agree that we require renewable

energy but every site is not suitable for a wind farm: Llanllwni Mountain is definitely not suitable. TAN 8 notes that SSA boundaries are at a broad brush scale and recognises that not all land within SSAs will be technically, economically and/or environmentally suitable for wind power proposals.

The Case for Llanllwni Community Council (Documents DT1 & 2)

The material points are:

374. The Community Council wishes to protect its community out of respect to those who have transferred it to its care, for those who currently live there and for those that will follow. A stable community has occupied Llanllwni since at least the ninth century. They were a community of farmers moving between 'Hafod' and 'Hendre', and it is mainly a community of farmers and craftspeople who still occupy it. The mountain continues to provide grazing but the great revolution that has occurred in the economy based on it during the second half of the twentieth century is that it offers convenient facilities for a huge range of leisure activities.

375. Agriculture, tourism and leisure activities are the backbone of the economy and enable young people to stay in their home and ensure the continuation of the community. Over 70% of the primary school pupils come from families falling into the above category, there is a waiting list for nursery school places and the community is able to sustain a village shop and post office, a restaurant and two public houses. The proposal would change the nature of Llanllwni Mountain and the balance of the community's economy making it more fragile. The grazing land to be offered in exchange is also unsuitable.

376. The Community Council accepts that there is a responsibility to aim for communities that are sustainable and green but does not see how turning a completely natural resource into an industrial estate would achieve that. Neither does it see how weakening a healthy community could be considered an honourable aim or how destroying the tourist industry would boost the economy and it opposes filling the ground with concrete 21 times.

The Case for Grŵp Blaengwen (Documents GB1a, 1b, 2, & 3)

The material points are:

General matters

377. Grŵp Blaengwen is a group of local residents, farmers and other businesses that was set up in 2007 to oppose the development of the Alltwalis (then called Blaengwen) wind farm. Local people will already have to face the adverse impacts of 38 industrial turbines (Alltwalis and Brechfa West) and enough is enough, a further 21 would be completely unacceptable.

378. To say that transport management plans would be clarified should consent be granted is just another example of how the true impacts have been concealed. Hints at such things as movement of telegraph poles, widening of roads and bridges, the loss of private property and the removal of a rock face on Alltwalis Hill have been made. This would lead to weeks of road closures, diversions and disruption.

379. The grid connection is inextricably linked to the proposal but has not been impact assessed. As financiers, RES would have been aware of Western Power's change of plans well before April 2013, yet the issue was concealed until then. There has been considerable local opposition to the section inextricably linked to this proposal, partly on the basis of the impact on local residents. To have to endure the cumulative impact of the turbines and the pylons is again too much.

380. The Met Office/MoD objected to the proposal. Significant pressure was applied on the Met Office to reconsider its position, largely due to concerns about the impact on the MoD's financial and reputational position. Now we hear that the matter is all sorted, but with no information as to how RES proposes to mitigate such grave concerns. The development has been clearly shown to have detrimental effects on public safety and civil contingency planning and the public deserve to be made aware of how the weather radar, which is a piece of public infrastructure, is to be protected.

381. The group also has concerns regarding the impact on the aviation radar at Aberporth. Insofar as Brechfa West is concerned, the MoD did not initially object but the Military Aviation Authority (part of the MoD) then indicated that the position had changed and that it had serious concerns due to the establishment of four danger areas between Aberporth and Sennybridge to allow the operation of unmanned air systems (drones). The Defence Infrastructure Organisation (another arm of the MoD) then became involved and the objection was removed. Yet again a matter of extreme importance has been concealed from the public arena and this applies equally to the appeal proposal with the proposed turbines being in the same array, of a similar height and closer to Aberporth than Brechfa West.

Noise – cumulative impact (Document GBG5 & GBG7)

382. ETSU-R-97[414] notes that an existing wind farm should not be considered as part of the prevailing background noise. The Institute of Acoustics 'Good Practice Guide' (par. 5.2.2) states that where a new wind farm is proposed and a receptor is also within the area acoustically affected by an already operating wind farm, then noise from the existing wind farm must not be allowed to influence the background noise measurements for the proposed development. Neither the ES nor the SEI makes any mention that this advice has been followed.

383. With the exception of Cwmiar, the background noise surveys were carried out between 14 October 2009 and 30 November 2009 and the ES shows[415] that the wind direction during this period was basically from the South and South West. The SEI gives predicted noise levels at Tirlan for the full range of wind directions with an 8m/s wind speed[416], although these are averages with actual measurements capable of showing variations of up to 14dB depending on meteorological conditions. It shows that when the wind is from the South and South West, the contribution from Alltwalis was approximately 20dB.

[414] CD11.1

[415] CD1.4, Figure 10.3

[416] CD1.5, Figure 11.1 p. 88

384. The ES gives derived night time noise levels[417], which for Tirlan at an 8m/s wind speed is 34.1dB as a best fit value. There is no mention that any extraneous data has been removed as a result of noise from Alltwalis although a journal kept by a group member shows that Alltwalis was operating during the entire period of the background noise survey. From the previous paragraph, Alltwalis would be expected to contribute 20dB when the wind is blowing from the South or South West.

385. Above a base of 40dB, an additional 20dB would make no difference. However, below this base it would such that the background levels have been recorded at a higher level than they would if Alltwalis had not been operating at the time and this also applies at other wind speeds. This in turn means that the best fit line that has been applied to the background noise level is also set higher than it should be. Potentially every single data point below 40dB is wrong and cannot be used as a basis to build noise conditions with any degree of confidence.

386. Tirlan has been taken as an example as it was one of the locations used for background noise measurement and was also included in the SEI as a property for detailed examination of cumulative noise. The same comments would be true for the other properties where background noise measurements have been taken. They are all based on tainted data and are unreliable such that they cannot be used as a basis for noise conditions.

387. The ES states[418] that the minimum margin of predicted noise levels below derived noise limits where it is considered cumulative impact may be expected, for all wind speeds considered, during quiet waking hours, is 0.6dB(A). Given that the data these calculations are based on is faulty, 0.6dB is not a sufficient margin. Indeed it is hard to see that it could be a sufficient margin even if it was based on accurate data being so small that it cannot be accurately resolved with a sound level meter.

388. The ES goes on to note that it is not likely that the noise from the proposed wind farm would exceed the predicted level since the predictions inherently assume, amongst other factors, downwind propagation from all turbines to all receivers. As we know from the SEI, this statement is not factual with the chart clearly showing that the maximum cumulative noise from all three wind farms would be heard whenever the wind is from the South and South West. As this is the predominant wind direction, the maximum cumulative noise can be expected to be experienced for most of the time.

389. It should also be remembered that Alltwalis already has permission to operate up to the full ETSU limit of 5dB above background or 40dB daytime and 43dB night time, whichever is the higher. Such a situation is considered in the Institute of Acoustics 'Good Practice Guide' (par. 5.4.6 – 5.4.11), but RES has not followed any of the described options. This calls into question the enforceability of any conditions that rely upon the assumption that there is any headroom left by Alltwalis. Furthermore, the operator at Alltwalis is investigating the possibility of fitting blade power upgrade kits to improve power output and this could result in a consequential increase in noise

[417] CD1.4, Table 10.11 p. 316

[418] CD1.4, par. 2.6 Appendix 10.5

levels. As long as those remain below the full ETSU limit, CCC would have no basis to challenge.

390. In addition, significant land height changes and high wind shear refraction effects have not been factored into the assessment such that there may be under predictions of up to 3dB. Additional wind farms in an area would also increase the frequency and duration of adverse impact limiting residents' ability to move from a room on an exposed side to one on a protected side. Furthermore, Alltwalis is controlled by conditions relating to 10m measured wind speeds whilst Brechfa West and this proposal would be controlled using standardised wind speeds. The two methods of measurement are incompatible and for any moment in time and a recorded wind farm noise level each procedure will allocate a different wind speed to the relevant period in time.

391. In this situation the cumulative noise from all 3 wind farms could exceed the ETSU maximum even though, individually, they would all be operating within their own conditions. The planning system offers the opportunity to proactively manage problems resulting from development before they arise. Developments should not be consented if they, foreseeably, would give rise to problems that have to be subsequently managed in a reactive manner.

Noise – Amplitude Modulation (Document GBG5)

392. Research confirms that all wind farms emit AM and that this is readily identified and measured in the field. It is not rare but common and manifests itself as ranging from gentle swishing to low frequency impulse thumping. The primary issue of concern in relation to wind farm noise is excess AM. This is now a serious issue and the primary cause of complaint about noise in relation to the majority of wind farms where complaints are registered but can be dealt with by condition. Initial investigation show that it is a serious problem at Alltwalis.

393. ETSU acknowledges AM's existence but proceeds on an assumption that it is limited in extent with levels at their maximum of 2-3dB (A) close to the turbines and diminishing over distance. The AM from modern turbines differs to that identified in ETSU, being more intrusive and can increase with distance. The later was based on turbines that existed in the mid 1990s with hub heights of around 30m and rotor diameters typically of 27m or so. Modern large turbines have hub heights in the range 60-80m and 80m rotor diameters with the blades having much larger surface and swept areas in comparison.

394. The substantial misinformation about the level, occurrence and control of excess AM appears to have led decision makers to reject control resulting in a substantial number of communities being exposed to serious noise impact without any realistic prospect of redress. A well researched and tested condition is proposed. Whilst conditions based on its metric have previously been rejected at appeals, this was without the hindsight of the level of information about the condition nor with up to date understanding that the true incidence is not rare but high.

395. If such control is rejected, then the appeal should be refused. Absence of excess AM control at existing sites is not a reason to perpetuate the problem and allow

increased excess AM impact in the locality over that already permitted. Control would also assist investigation of AM generated by either Alltwalis or Brechfa West.

The Case for the Teifi Valley Tourism Association (Document TA1)

The material points are:

396. The Association, which now has over 75 members, was set up in 2009 to reflect a feeling that the Teifi Valley, to which Mynydd Llanllwni provides a stunning backdrop, should be considered as a unique tourism destination. People staying in accommodation provided by members principally come for the peace, quiet and tranquillity of the area with the SLA of Mynydd Llanllwni, the last wild relatively unspoilt part of the area, being one of the main attractions. As they do not visit the mountain in groups they do not show up in studies of visitors to the mountain. If the proposal is implemented, they would probably go elsewhere resulting in an adverse affect on members' businesses.

397. Prof. C Aitchison's impact analysis[419] submitted by the appellants relies heavily on her own study relating to Fullabrook, North Devon[420]. That was commissioned by a wind energy developer and is considerably out of date with the number of developments and height of turbines having increased significantly since then. The 2008 Glasgow Caledonian University study[421] was commissioned by the Scottish Government, which is heavily biased towards wind power at the expense of all else. It would also appear that questions put to the tourists interviewed initially focussed on attitudes to renewable energy rather than wind turbines. Many tourists visiting from cities will have no direct experience of large industrial turbines and will answer that they are in favour of renewable energy.

398. Prof. Aithchison maintains that it is better to ask tourists rather than local tourist board members or tourism providers. This ignores the fact that those threatened with wind power developments will generally have researched the subject intensively and will have a much better idea of the likely impact. They will know that installed capacity is very different from what will be produced which could be as little as 10%, the life of a turbine is more likely to be 12-15 years rather than the 25 years claimed, blades which are not recyclable require regular replacement. They know that the beautiful narrow country lanes would regularly be subject to unsuitable heavy loads during the lengthy construction period. They know about the borrow pits, the unsightly substations and the inevitable pylons.

399. Prof. Aithchison also suggests that PPW is concerned as much with mitigating potential negative impacts of tourism as it is with impacts of other sectors on tourism and tries to argue that industrial turbines would be an improvement for a rural area. This is preposterous.

400. A much more recent YouGov poll for the John Muir Trust in 2012 found widespread support for prioritising the protection of scenic wild land over large scale wind farms.

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[419] CD1.5, Appendix I

[420] Document RES17, Appendix 8

[421] Document RES17, Appendix 7

The poll also indicated that high concentrations of wind farms could pose a serious threat to tourism in Britain's scenic areas. The chairman of the Trust noted that the poll suggests that up to 17.5 million adults across Britain may think twice about visiting areas where the landscape is blighted by turbines and this represents a serious long-term threat to those areas whose economic lifeblood is tourism. This is much more representative of current opinion than the work done by Prof. Aitchison.

401. Between January and August of this year (2013), 188 new onshore wind farms were given planning permission, a 49% increase on the same period in 2012 and more than double that for the same period in 2011. The number of applications for new onshore wind farms more than doubled between 2011 and 2012 representing a massive threat to our stunning countryside. In England, Ministers are intervening to block developments where the planning system fails to protect the countryside and overrules local objections.

402. The Cambrian Mountains Initiative is successfully promoting the mountain and forest area of Brechfa yet the effects of 22 months of heavy lorries trundling up the mountain would be devastating for tourism and all their hard work would be in vain. The scale of the materials needed dwarfs that used for Alltwalis, yet the same unsuitable roads would be used. The construction of the approved Brechfa West scheme, and possible Brechfa East as well, would have an accumulative impact.

403. The Association is very much in favour of the micro-generation of sustainable energy and many members have accommodation which is energy efficient and/or produces some of its own energy. However, it does not believe that industrial scale on-shore wind is in any way sustainable citing such matters as the need for Government subsidy, the amount of concrete used, the need for rare-earth metals from China, haulage distances, and frequency of generation in support. It also notes that Wales already produces more than enough electricity for its own needs and locating such developments nearer to areas of demand would reduce power losses and reduce the length of grid connections.

404. Noise is also a concern with those close to the Alltwalis turbines still suffering 2 years after commissioning.

The Case for the Llanfihangel Rhos-y-Corn & Llanllwni Grazing Association (CD1.19b & Document GA1)

The material points are:

405. The Association has around 50 members and it has implemented a warden scheme to cover such matters as fire precautions, dumped carcasses, litter, stray dogs and dumped horses. It has also prepared a draft HMP, and is actively working with the relevant authorities to address animal health issues, habitat matters, highway concerns, antisocial behaviour and fire risks. A ban on burning has been in place since 2003 and the Association has been mowing fire breaks and using the heather in areas to repair damaged areas. The information given in the applications is wrong in respect of the identity of the main graziers and the flocks and herds that graze the common are hefted to walks. Some members have rights on their deeds to take grass etc. and the Crown Estate is wrong to state that there are no such rights.

406. The Association has a number of concerns regarding the exchange lands which in general are agriculturally managed, at inferior locations and of poor conservation interest. They include many ineligible areas such as ruins, banks with trees, rushes, bracken, gorse, tracks, hardstandings etc. which would impact on SFP payments. For at least the first two years there would be an overall loss and the Association cannot obtain information on the resulting eligible area. As much of it is farmland, animals may favour it over the existing common resulting in overgrazing and animal welfare problems. The large number of old banks and stonewalls would constrict livestock movements and result in poaching. To state that the majority of the area to be lost is even aged and excessively burnt and overgrazed in completely wrong with the new association having achieved a lot since its formation.

407. Parts of parcel 1 are too steep and covered in whitethorn, blackthorn, gorse and bracken to be of any benefit. The fact that the parcel has been open to the common for over 5 years demonstrates that the available grazing areas would not quickly revert to moorland grass within 2 to 3 seasons. Livestock grazing this parcel have in the past had higher levels of worm infestation and been more prone to fly strike. Parcel 2 is all improved grassland not partly semi-improved grassland and there is no large water retentive boggy waterlogged area at its centre. Parcel 3 is on the side of a very steep valley not mainly level as stated by RES. Parcel 4 is covered in a dense mat of rushes which has no grazing value, is an ideal breeding ground for liver fluke and is not currently grazed. Parcels 1 and 2 would not make up for the habitat that would be lost and parcels 3 and 4 would have a major effect on grazing patterns and to the commons habitat.

408. No mention is made about the wild bees that live and feed in the banks and surrounding heathland and heather in the vicinity of some of the proposed turbines. There are 2 ancient badger sets on the site and one has already been targeted. Although there are only a few small areas of sundew plants on the commons as a whole, CL4 supports a large area which would be completely destroyed by one of the site tracks. The suitability of the bat habitat to be created is questioned. The RES report states that curlews have attempted to breed but they are breeding on the site. CL4 is an important area for golden plover. Many other bird and animal species have been excluded from the RES surveys.

409. The Association is also concerned as to the impact on farming, farm diversification, rural and tourism businesses in the area, and the public's enjoyment of the commons. Other concerns include possible damage to the burial cairns and as yet undiscovered artefacts and sites, presence of WW2 munitions, fire risk, health impacts, and interference with telecommunications.

The Case for the Brechfa Forest Energy Action Group (Document EAD1a)

The material points are:

410. The Group is a loose affiliation of 380 members that operates as an information network and campaigning body. In the early 2000s the tourist accommodation providers in the area were concerned that tourism maps had no designation for their area. As the WG was designating the whole area, including the open heathland of Mynydd Llanllwni and Llanfihangel Rhos-y-Corn, as Brechfa Forest it appeared practical

to use that as a title. The latest map produced by CCC[422] uses that designation. Miss Evans has drafted a trail (Saints & Stones Tour) around the Brechfa Forest[423] incorporating various special places. This is modelled on work done in Pembrokeshire[424] and this is being taken forward by the Brechfa Forest and Llanllwni Mountain Tourism Cluster Association.

411. Insofar as the visual impact from residential dwellings are concerned, any tree screening at Rhos Wen, with the 3 dwellings being occupied year round, would only be operative when the deciduous trees are in leaf. The appellants' evidence narrowly focused on views from sitting rooms/lounges, but room use is interchangeable, views from kitchen windows help with the washing up and people look around when enjoying their gardens. No mention has been made of the visual impact of the housings and transformers at each turbine.

412. The SMLlG has already mentioned the Peace Cairn[425] and its importance to local communities as exemplified by it being the location where the ashes of author Kate Baillie were spread. It is hard to imagine that the construction of the turbines close by would not adversely affect this special place. The moat of water around the current heavier peace cairn shows that it has sunk into the peat which the ES and SEI appear to make light of.

413. It has been suggested that the tracks between the turbines would open up the mountain for all users – cyclists, wheelchairs etc. The tracks at wind farm developments pose a very uncomfortable ride for anyone in a standard folding wheelchair. The commons already suffer from damage caused by inappropriate use by 4x4 vehicles and the Mynydd y Betws wind farm is attracting large numbers of motorcyclists who race up and down the tracks causing annoyance to other users of the mountain.

414. Whilst there would be a different developer in this case, the community has had the experience of living through the construction and operational phases of the Blaengwen/Alltwalis wind farm with its 110.5m turbines. There has been a catalogue of infringements- loads out of hours, hydrology problems, turbine noise, Japanese Knotweed, tracks being constructed from inappropriate materials and in the wrong location etc.

415. Compensating graziers for any losses has been suggested, but what about bee keepers, raptor trainers, horse trials, accommodation providers etc.? Western Power's grid connection proposal has been characterised by mess and muddle with some organisations involved in the process but not others. A road test through Gwyddgrug to Llanllwni and then up through Mountain Gate and past the radio masts with a lorry with a load the length of a turbine blade showed several problem pinch points and the Group has major concerns that the lanes and the structures underpinning them would be put in danger of collapse.

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[422] Document EAG1b, Appendix 3

[423] Document EAG1b, Appendix 6

[424] E.g. Document EAG1b, Appendix 5

[425] Document EAG1b, Appendix 4 (as originally constructed)

The Case for the Brechfa Forest and Llanllwni Mountain Tourism Cluster Association (Documents TCA1a & b, and TCA2)

The material points are:

416. The Association started as a group of tourism businesses who worked together to promote Brechfa Forest and Llanllwni Mountain to attract additional tourists to the area. Tourism is already the second largest source of employment in the area. There are 640 bed spaces within 10km of the site- close enough for visitors to use sustainable transport (walking, cycling or riding) when travelling to the mountain. In 2009 it started to work on projects supported under the Cambrian Mountains Initiative. Brechfa Forest and Llanllwni Mountain forms the south western region of the Cambrian Mountain Range and each zone has received funding to produce a community led action plan. The Association is also receiving support from mentors at Bangor and Oxford Universities and the Prince's Social enterprises.

417. Current projects comprise heritage grant funding for A2 size display boards, a set of leaflets containing detailed stories of key historical figures and landscape features, and a web site. These are designed to encourage residents and visitors to design their own walks, cycle trails or rides visiting sites that interest them rather than following specified trails.

418. The Carmarthenshire Tourist Association has recently obtained grant funding to promote trails on themed interpretation of sites related to topics including spiritual sites (referred to by Miss Evans of the Brechfa Forest Energy Action Group), the role of the area in the conflict between Lord Rhys and the Normans, and the life and works of Lewis Glyn Cothi. The Dyfed Archaeological Trust has also received funding to carry out additional research into the historical features of the open access land.

419. Future projects include Cambrian Mountains Initiative support to community groups to prepare a bid for Rural Development Plan grant funding for a large project with each zone in the 2014 to 2020 period. A talk on the tradition of community management of the forest has been arranged for November 2013 and this is to be followed by discussion with community groups on the development of the above bid.

420. The Teifi Valley Tourism Association's comments on Prof. Aitchison's report[426] are endorsed and it is noted that the tourism business figures and WG policies cited are out of date. Whilst she gives the distances from Llanllwni Mountain to other attractions, she does not mention that the mountain itself has long been promoted as such by CCC. Whilst she quotes certain section from a Scottish report, she ignores the finding that there would be a loss of between 16.6% and 25.7% of the nightly room rate if a wind farm was added to the view. She also fails to consider the 65% negative response in research commissioned by the former Wales Tourist Board[427].

421. Nowadays potential holiday makers search online for information on the area they are thinking of visiting. Taking Alltwalis as an example, 3 of the 10 sites on the first page of a web search would be about the wind farm, one of which is about a call by the

[426] CD1.5, Appendix I

[427] Document TCA2, p. 4

local MP to have it shut down. Subsequent pages include articles on local residents having to take medication as a result of the noise, letters to the local paper, and minutes of meetings. The only B&B advertised as being in Alltwalis reports very low levels of bookings in comparison to other businesses in the area.

422. All association members focus some of their marketing exercises on the peaceful and quiet nature of their properties and this is a key selling point. Whilst the noise from a wind farm may be within prescribed limits, those limits have been compared with the noise levels generated by a busy road. Any wind farm noise which is audible when guests are sitting in the garden of a holiday cottage or hotel is too much and would damage that business.

423. Concern is raised about the impact of construction traffic on the safety of walkers, cyclists and riders. It would appear that turbine manufacturers recommend that staff employed by operators do not approach within 500m of an operating turbine. BHS guidelines have not been adhered to. By the time Ministers make a decision, the community will have spent considerable sums of EU money on projects encouraging walkers, cyclists and riders to explore this area of the mountain.

424. The appellants' cultural heritage witness stated that he had not though it necessary to research the importance of the site's cultural heritage to the local community. Yet the EU directive on environmental impact assessment requires the identification, description and assessment of, amongst other matters, human beings, material assets and the cultural heritage, as well as the interaction between them.

425. Members of the community have put in considerable effort to develop their own plans for this site and started to put them into action. Granting planning permission for the appeal proposal would be a clear signal to communities across Wales that current WG policies on community led development are not worth the paper they are written on.

The Case for the Ramblers – Lampeter Branch

The material points are:

426. The branch walks on the mountain frequently as it is a location which can be reached by public transport. It is also a good location to teach map reading but small enough not to get lost. The branch recently walked across the Llangwryfon wind farm and members felt ill at ease in close proximity to the turbines and will not be going back. Llanllwni Mountain is a popular location and they see other groups out walking. It offers short, medium and long routes and is able to cater for varying capabilities. The appeal proposals would spoil their enjoyment of the mountain.

The Case for Mrs V Kincaid (Document VK1)

The material points are:

427. Mrs Kincaid lives in New Inn and spoke on behalf of herself and several of her neighbours. They use the mountain for its peace and tranquillity, its wildness and unique flora and fauna, exercising themselves, their dogs and horses and letting their children play. This amenity would change beyond recognition because of the loss of peace, tranquillity and landscape. Wind turbines are noisy with the rhythmic swish and

thump being more reminiscent of a production line in a factory rather than open countryside. The moving blades would draw one's eye away from the present view to Carmarthen Fan, the Brecon Beacons and the Cambrian and Preseli mountains. The construction with its thousands of tons of concrete and hardcore would change the environment. The shadow of the many turning blades and the flashing lights required would detract from the dark night sky.

428. The HSE notes[428] that wind turbines are frequently located on land open to the public and state that potential hazards such as whole or partial blade failure, falling ice, fire and lightning should be assessed within the planning framework process. Although the final choice of turbine is not known, the operating and maintenance manual for the Vesta's V90-3.0MW, VCRS 60Hz turbine[429] advises that no one should stay within 400m of a turbine unless necessary and that any inspection from the ground should be done from the front rather than under the rotor plane. It also indicates that children should not stay or play near a turbine. The ES notes[430] that public access up to the turbine bases would not be prevented during operation as it is not considered a public safety issue and that no member of the public has ever been harmed by normal operations of wind turbines.

429. However, in 2011 Renewables UK (formerly BWEA) reported that there had been 1500 accidents or incidents concerning wind turbines in the UK during the past 5 years[431]. The Caithness wind farm information forum lists some 966 documented cases where wind turbines did not operate normally including 234 blade failure incidents, 185 fire incidents, 128 cases of structural failure and 34 ice throw incidents. The research report prepared for the HSE by MMI Engineering[432] notes that blade failures can result in pieces of blade being thrown more than 1400m and acknowledged that the thrown fragments pose a risk to people, animals and buildings with testing of only 1 blade in 3 might not being sufficient to detect potential failures. It also reports that lightning can cause damage to the blades.

430. Although the ES states[433] that this site is not high enough for icing to occur, icing can occur at any level when air temperature and humidity are conducive. Wind turbine blades operate on exactly the same principle as aircraft aerofoils and the Civil Aviation Authority indicate that the most likely temperature range for airframe icing is from 0 to 10 degrees C[434]. The BHS state[435] that although some horses will get used to turbines

[428] Document VK1i

[429] Document VK1h

[430] CD.1.4, par. 13.3.21 & 13.6.13

[431] Document VK1c & d

[432] Document VK1f & k

[433] CD.1.4, par. 13.6.8

[434] Document VK1g

[435] Document VK1e

30% will react adversely and 50% of riders would not be willing to risk riding their horses in close proximity to wind turbines.

431. For the above reasons there is a need for a risk assessment on the siting of industrial wind turbines on common land adjacent to public rights of way. As the number of turbines increases so will the risks and if proper control measures are not put in place it will only be a matter of time before people are injured. From the information available, the proposal cannot be safely combined with the public's right to roam on the commons.

432. The largely single track unclassified road between New Inn and Brechfa has steep banks and deep ditches. The question is raised as to what provision would be made for cars, horseboxes, horses and people on foot including children and those with dogs or buggies to safely pass the HGV traffic that would be generated and it is suggested that the use of this route by up to 12,680 HGVs during the 12 month construction period should also be subject to a risk assessment.

433. Concerns are expressed regarding possible damage to properties, some of which do not have proper foundations, and to bridges/watercourses along the route to be traversed by heavy abnormal loads. Further concerns relate to delays in getting to work, shop, appointments etc. and the ability of the emergency services to respond quickly when the abnormal loads are travelling to the site.

The Case for Mr E J Razzell (Document EJR1a-c)

The material points are:

434. Mr Razzell refers to the experience of sharing a beautiful, tranquil unspoiled opportunity so close to nature that he and visitors to the area experience. He had originally thought that Llanllwni Mountain could never become an industrial zone since it was too far from any markets. It did not occur to him that green policy would result in large scale inducements being offered encouraging developers to build large scale industrial structures that would completely change the character of the area. People feel very concerned about the quality of their lives and their health. Frequent low frequency rumbling noise from the Alltwalis wind farm is already being experienced; the Brechfa West development would be much nearer with the appeal proposal nearer still.

435. From the 1970s onwards a significant number of new arrivals spent large sums of money on restoring or converting buildings such that Llanllwni and the immediate surrounding areas became relatively prosperous. By the present day it supports 2 repair garages, a builders' yard, a post office and shop, a primary school, a Chapel, a Church, 3 public houses and a number of other small businesses. However, this prosperity is threatened by the possibility of 4 wind farms in the area which makes people question their decision to move to or stay in the area. During the hearing before the Welsh Assembly's Petitions Committee on 28 February 2012 residents of nearby Gwyddgrug described how their dreams of a healthy tranquil lifestyle had been shattered by the Alltwalis wind farm.

436. Some people have decided to move out even if it means losing money; others would find that their houses are unsaleable and in extreme cases would have to abandon them. A property known as Mountain Gate, which has had considerable expensive improvements made to it has been on the market for 2 years with potential buyers losing interest when they find out about the appeal proposals. Research carried out by the London School of Economics, partly funded by the WG, states that: 'Living within or in close proximity to desirable natural areas and environmental resources ... provide a large number of positive welfare benefits to residents, including numerous opportunities for recreation and leisure'. Researchers looked at 1 million housing transactions which showed that National Park designation adds 5% to houses prices, being near a mountain adds another 1% with home buyers on average being prepared to pay around £2,000 per annum for countryside accessibility.

437. Tourism would also suffer since the unique selling point for this area with its stunning unspoiled views and peaceful environment would have disappeared. Yet another negative factor would be road chaos with the cumulative effect of 2 large wind farms being constructed over a 2 year period. There exists a draft business plan involving guided tours of the mountain area, but this would be incompatible with the setting up of an industrial park consisting of up to 4 wind farms. The above factors could create an exodus and deter others from moving in such that local facilities would no longer be viable.

438. During the construction phase there would be a limited number of temporary jobs available to local people but thereafter an individual wind farm would only create 2-3 permanent jobs. A figure of £75,000 per year has been mentioned for the community benefit fund. This is minimal when compared to profits made by RES and could be lost overnight by a single house devaluation. There has also been a proposal to reduce local inhabitants' electricity bills by £100 - £250 per annum. Again this is minimal compared to the huge public subsidy for renewable energy schemes which is forecast to rise from the current 1.2 billion to £6 billion by 2020.

439. Whilst 38 turbines have already been approved in the area there is still enough of the mountain left in a natural state to be worth conserving. The mountain area has taken millions of years to develop into its present condition and it seems perverse to fill the soil with thousands of tons of concrete. It could never be put back in its original state.

440. A report for the Global Warming Policy Foundation warns that a high proportion of renewables is unsustainable because of the dramatic ebbs and flows of power being supplied to the grid. In Germany, this situation has involved a number of short interruptions to the grid which have increased by 29% in the past 3 years. The Prime Minister has stated that there is limited potential for onshore wind farms and announced that green taxes would have to be reduced. Evidence from other countries is that placing too much reliance on intermittent wind power is bad for the economy and it is not in the public economic interest to give permission for any more onshore wind farms.

The Case for Mrs K Hamza (Document KH1a)

The material points are:

441. Mrs Hamza and her husband have renovated and converted dilapidated outbuildings into high quality holiday cottages and others in the community have made similar investments. In 2011 SMLIG reported that there were 640 tourist bedspaces within a 10km radius of the proposal which generated £8.165m annually.

442. Mynydd Llanllwni is one of the few SLAs in Carmarthenshire with designation being made in order to safeguard, manage or provide for the special attributes of the area and to add value to other policy considerations. The 2008 Glasgow Caledonian University study[436] commissioned by the Scottish Government states: 'It is clear that individuals value the scenery and the introduction of industrial infrastructure, be it wind turbines or other large metal structures such as electricity pylons or masts, reduces the value. There has been a long tradition of assessing the change of value by examining the change in willingness to pay.' If guests don't want to pay very much for their accommodation the business would be out of pocket and deteriorate into a downward spiral.

443. There is no evidence from holiday accommodation providers whose businesses are already next to existing wind farms confirming that their bookings remain stable and repeat business is being maintained. Ms Hamza has a friend in the Lake District who reports that since 3 turbines were built near her holiday cottage bookings have most certainly gone down with people who do come being shocked at the scale of the turbines and don't come again. The Glasgow Caledonian University study also notes most people appear to believe that from the hotel bedroom it is better to face an open hillside rather than a wind farm.

444. The British Wind Energy Association presentation[437] suggests that if there is deemed to be no damage to landscape at the planning stage then there would be no damage to tourism. In this case, the ES[438] acknowledges that Mynydd Llanllwni is of high sensitivity. Holiday makers believe that Mynydd Llanllwni is unique and have stated in no uncertain terms that they won't want to come again if there is a wind farm on the mountain[439]. During the summer season all the holiday accommodation providers have had guests staying most of whom would have been happy to complete questionnaires yet no research has been conducted locally.

445. The appellants are relying on studies for Fullabrook, North Devon where holiday makers are more interested in beaches and the wind farm is on agricultural land with no public access and Scotland which confirms that visitors are sensitive to the landscape and may not come again. An independent YouGov poll for the John Muir

[436] Document RES17, Appendix 7

[437] Document RES17, Appendix 6

[438] CD1.4, Volume II

[439] Documents KH1b-i

Trust in 2012 showed that 40% want governments to prioritise protecting scenic wild land over large wind farms with 28% wanting governments to prioritise large wind farms over scenic wild land. 43% would be less likely to visit a scenic area with a large concentration of turbines whilst only 2% would be more likely to do so.

446. Concern is also raised about the impact on the business during the construction phase, noise with children and the elderly being more susceptible to AM, flicker in sunlight and moonlight, as well as health impacts.

447. To balance any benefits against the adverse effects on the lives and businesses of local people one must take a number of matters into consideration. These include their loss of amenity, the considerable reduction in property values, their way of life being an integral part of the countryside, the drop in revenue to owners of holiday accommodation, the loss of and damage to wildlife, the loss of peace and quiet provided for people with stressful jobs, and the economic loss to Wales which is already energy self-sufficient. Possible benefits are greatly disputed because of factors such as the erratic production, the need for back-up, the cost to consumers, the CO_2 consumed in manufacture, transportation and decommissioning and released from peat bogs. Mynydd Llanllwni would never revert to its present beautiful state, the scars filled with concrete would stay and the heather would not come back.

The Case for Mr E Marynicz (Document EM1)

The material points are:

448. The ES notes that turbines would be positioned over 930m away from residential properties to ensure noise levels are within limits set by current guidance[440]. It also predicts that Rhoswen, Pentaflod, Ffynnon Las, Bryngolau, Clyniau and Nant-y-Feinan would experience cumulative wind farm noise of around 40dB at a wind speed of 8m/s[441]. The Arup refinement study adopted a 500m radius buffer from all postal addresses noting that this is an emerging best practice approach for noise/amenity and safety reasons[442]. It goes on to indicate that 700m is now the norm for the very largest rated turbines (2-3MW) and the refined boundaries when developed generally respond to this sort of separation distance.

449. The Garrad Hassan report[443] was intended to carry out a more detailed technical feasibility study of the generating capacity potential of the SSAs. The inference being that it would be more detailed than the previous Arup study that had selected the SSA boundaries. It anticipated a significant reduction of capacity limits as part of the detailed planning process due to additional planning constraints. The main material difference was the addition of buffers for dispersed dwellings, omitted from the

[440] CD1.4, Volume I p. 7

[441] CD1.4, Volume II Appendix 10.5 & Table 4

[442] CD3.21, Table 1 p.16

[443] CD3.25

previous study, which forms the main locational driver for turbine placement within each SSA.

450. Mr Marynicz has counted more than 20 dwellings inside SSA G, including Bryn Llywelyn, when there should be none according to the 500m buffer that Arup said they would use. This suggests that the work in setting up the SSA boundary for SSA G was a rather inaccurate piece of work, albeit on the understanding that there would be more detailed revision later.

451. Garrad Hassan effectively reduced the size of the Arup defined SSA in order to include a 700m buffer zone around all properties and this was used to generate base case capacity figures (150 MW for SSA G). They then applied a noise contour based on 40dB at a wind speed of 8m/s, which broadly equates to that predicted at the properties referred to above, to give a base case plus noise capacity figure (132 MW for SSA G). Nevertheless, they warned that this was a maximum which they expected to come down significantly when all planning criteria were taken into account in determining individual applications.

452. This is the correct context to have in mind when reading the previous Minister for Environment and Sustainable Development's letter[444] where he has taken the base case plus noise constrained figure as the capacity limits for the SSAs. It would be completely contrary to the explicit guidance given for the turbines in SSA G to exceed 132MW in total. If the caveats included in the Garrad Hassan report are followed, it should be no surprise that the maximum limits defined will not be met when detailed planning applications come forward.

The Case for Miss B Edwards (Document BE1)

The material points are:

453. Miss Edwards has a long association with 'Pilgrim Adventure', newly renamed 'Journeying', which is a not for profit ecumenical organisation that explores the more remote and beautiful places in Britain and Ireland. 'Journeying' endeavours to introduce these wonderful places to those who wish to deepen their experience of creation and become more aware of the interaction between creation and the spiritual side of our natures.

454. Those who travelled to this place before us were strongly aware of the sacredness of the landscapes. They had a strong spiritual awareness as evidenced by the Bronze Age barrows where they placed their dead and this awareness of high places as holy is strongly affirmed over succeeding centuries. In late medieval times the little thirteenth century Church of Llanfihangel Rhos-y-Corn was a place of pilgrimage. Today it remains part of a pilgrimage, albeit a wider one known as The Cistercian Way. There are some places which draw us into deeper community with each other, with the whole circle of creation and with a creating power which holds all being. The mountains of Llanllwni and Llanfihangel Rhos-y-Corn are such places.

[444] CD3.20

The Case for Mr W Edwards (Document WE1)

The material points are:

455. Mr Edwards is a beekeeper who brings his hives to Blaendyffryn so that his bees can forage on the heather moorland at Llanllwni Mountain. The quality of the heather for that purpose is confirmed by the fact that beekeepers from Gloucester, Hereford, Tenby, New Quay and Lledrod as well as locals bring their bees there. He is concerned that the proposal would spoil this heather honey gathering. Firstly, because the heavy machinery needed to build the bases would cause permanent damage to acres of heather which would never recover with the permanent service roads wiping out further acres of heather moor.

456. Secondly, the low frequency noise that can travel up to 30 miles from the source would have a detrimental effect on bee colonies. A report in 1993 found that airborne sounds and vibrations play an important role in honey bee communications. It is also known that honey bees use sound vibrations to navigate. A massive disappearance of honey bees in the USA began to be reported in 2005 with drastic increases in following years. This coincided with a drastic increase in the number of wind farms from 2004 to 2005 with areas with the most disappearances directly corresponding with operating wind farms. On a world scale, areas of honeybee disappearances also correlate with operating wind farms.

457. Furthermore, serious concerns are arising as to potential negative effects on bees from stray voltage, air pressure changes, turbulence and electromagnetic fields. Some American apiarists have expressed concern as to the shadowing, flashing, strobing effect of the blades which last for 2-3 hours a day for 2-3 weeks in spring and autumn.

458. In reality the wind energy industry uses more energy from fossil fuels than it will ever produce whilst at the same time degrading the countryside with useless spinning towers and killing millions of endangered bird species. Wind turbines are not essential for renewable energy production whereas bees are vital for food production and the future of mankind.

The Case for Mrs O Davies

The material points are:

459. Mrs Davies is a retired psychiatric nurse who lives in Gwyddgrug with her husband who farms. During the construction of the Alltwalis wind farm they lost a number of valuable Texels at lambing time and she attributes this to stress induced by ground transmitted vibrations emanating from vibratory rollers used in access track construction. She is concerned that this would be repeated by the permitted Brechfa West scheme and, if permitted, the appeal proposals. Problems were also experienced with china falling from a dresser and objects on tables moving.

460. Noise from Alltwalis continues to be a problem with people suffering migraines and depression as a result. Homes have been monitored since 2010 and it is believed that the Council's Environmental Health Officer visited Gwyddgrug on the previous night. One family have put in a new electricity supply, believing that to be the cause of their

problems, but to no avail. ETSU is of no help and monitoring in someone's bedroom at 3am is a ridiculous process.

The Case for Ms M Fearn (Document MF1)

The material points are:

461. Llanfihangel Rhos-y-Corn and Llanllwni Mountain are very special places which Ms Fearn has known for 24 years. She is still astounded that there should be such a beautiful space, empty of people, roads and buildings, with expanses of subtle colours, so easily accessible for all ages and abilities. Research shows that wide, open savannah like spaces are deeply appreciated, providing stress relief, lowering blood pressure and restoring our ability to self regulate.

462. Bulldozing additional roads across the mountain and sinking thousands of tons of concrete into this high peat moorland habitat would show extraordinary disrespect and destroy an open space that we should be caring for. The proposals would degrade an irreplaceable and precious landscape resource and damage this unique mosaic of landscape diversity. A substantial proportion of local income comes from bed and breakfast and other small businesses that support people biking, walking, photographing, painting and horse riding and Ms Fearn is concerned that such businesses would suffer greatly. She is also concerned for the ground nesting birds and the bats and raptors that hunt over the mountain as well as the impact on water courses.

463. Local people have had to consider four different planning proposals leading to a sense of confusion and being overwhelmed. The two Brechfa Forest developments could benefit wildlife as large areas of dense conifer would be cleared with the remaining areas of forest providing screening. However, the appeal proposal would be a short sighted terrible mistake that future generations would grieve over.

The Case for Mr E Hunter

The material points are:

464. Mr Hunter comes to the area for holidays but if the proposal is implemented would stop coming as he wants to go to a wild location and explore the common. He is particularly interested in birds and the site is a magnet to birds with Mr Hunter referring to personal observation of various birds of prey, golden plover and curlew. He is particularly concerned about the impact on nocturnal migrating birds, such as thrushes heading for Scandinavia, which clip the top of the mountain and the possibility of the turbine noise discouraging nightjar.

465. He lives in Neath Port Talbot with 9 turbines having been erected behind where he lives. Previously the area was available to walk on but since then danger signs have gone up and the area patrolled by security guards. He has seen a difference in the bird population with ravens continually visiting the area, when they previously did not, suggesting an increase in carrion from bird strikes although this cannot be confirmed. The development has led to Goshawk moving to the opposite side of the valley displacing another Schedule 1 species.

The Case for Mr J Shepherd Foster

The material points are:

466. IN 2011 Mr Shepherd Foster worked for the people of Gwyddgrug on a petition[445] to the Welsh Assembly regarding noise from wind farms and seeking to change the system so that there would be a respite period during which turbines would be switched off. The Petitions Committee came to Carmarthen and made 4 recommendations but these were largely thrown out by the WG.

467. Directive 2002/49/EC[446] relating to the assessment and management of environmental noise applies to, amongst other areas, quiet areas in open country which probably covers 85% of Wales. It would appear that the directive has been applied to the other areas but not quiet areas in open country. Despite attempts to investigate the matter further, no satisfactory answers have been provided. Whilst it is accepted that the Welsh Ministers can over-rule the provisions and state that wind farms are more important, there must be consultation and an audit trail before they do so but this has not been done.

The Case for Mr E Griffiths (Documents EG1 & EG2a-b)

The material points are:

468. Mr Griffiths lives near Cwm Du, around 13km from the western edge of the Alltwalis wind farm. His wife is very sensitive to noise and since the winter of 2006, when a wind farm was commissioned 40km away, has been hearing low frequency noise under certain weather conditions. She fell ill earlier this year but got better when the weather pattern improved. He has a strong suspicion that low frequency noise from Llanllwni wind farm was the source of the problem and the appeal proposal would be even closer to their home. Moving away would not be an option for them. Data obtained through Environmental Health shows that most noise recorded at their home on 3 June 2013 was low frequency.

469. His research has found a report for the US Department of Energy which shows that inaudible infrasonic low frequency noise can cause health problems for local residents which became worse over time. Symptoms included nausea, headaches, wobbly balance, a sense of displacement and insomnia. Low frequency noise is not adequately measured under ETSU-R/97 guidelines which only stipulate A-weighed sound readings that filter out much low frequency noise.

The Case for Mr T Shaw

The material points are:

470. Mr Shaw has been active within the environmental movement for a long time and remains so. Road building in wilderness areas is not a sensible way to tackle global

[445] See Document JSF2 for exact wording

[446] Document JSF1

warming. More focus is required on reducing consumption rather than ways of producing more energy. Once big businesses have been allowed into wilderness areas very little would be left to protect and other developments can follow. The process is divisive with its long tedious meetings being unfairly weighed against communities. Two fifths of carbon emissions over the last 250 years have occurred in the last 21 years and it is not worth it. The recession has cut emissions more than anything else.

471. Wind farm developments consume materials, the countryside and energy, although small scale DIY turbines are not intrusive and acceptable. Carbon trading has turned the issue to a consumer agenda with the Government not facing reality. When the Cefn Croes wind farm near Aberystwyth was constructed, the WG set up a monitoring committee. However, when the committee reported that a huge amount of carbon was emitted through disturbance to the peat bog, it was scrapped. The turbines would be of an unprecedented scale and the site's spiritual aspect decimated by the proposal.

The Case for Mr T Joynson (Document TJ1)

The material points are:

472. Mr Joynson has lived and farmed at Bryn Llywelyn for the past 37 years and was vice chairman of the previous graziers association. He is an active supporter of green energy and production of such energy should be embraced in view of the ever increasing population and ever decreasing fossil fuel supply with its damage to the environment. The WG has identified the Llanllwni Mountain area as being suitable for a large scale wind farm because of good wind speed, accessibility and the minimal impact due to the low population.

473. CCC has a projected £30 million deficit and insufficient money to match fund EU monies for many schemes in the Rural Development Plan. Match funding could be provided from the generous community benefit fund to be provided by this project. All forms of power generation have a financial cost, all have a visual cost; wind doesn't. After construction the pollution stops, with a pollution payback of under a year. The funded HMP could secure the future of Llanllwni Mountain and the flora and fauna on it.

474. The farm access track which he travels along several times a day crosses the common and he accesses the mountain to tend his livestock every day. Occasionally he sees local residents walking their dogs but most people drive to the Brechfa forest where there is a car park and information boards and where dogs can be let off the lead as there are no livestock there. His daughter's boyfriend is a competitive cyclist who welcomes the proposal as the tracks between the turbines would link up the Brechfa forest and the forest above Abergorlech which are used for training. The level topography of the mountain would also enable families to cycle together and allow wheelchair access, both of which are impossible at the moment, thereby opening up the mountain for the public to enjoy.

The Case for Ms M Elms

The material points are:

475. Ms Elms who lives in Gwernogle moved to the area when she was 16, living in a caravan for the first 6 years. She lives 1 mile or so from the Alltwalis wind farm, but

cannot see any turbines, experiences no vibration and drives past it every day without noticing it. She has 3 horses and regularly rides on the mountain and in her experience horses will get used to everything. The mountain landscape is man made being grazed by farm animals and Brechfa Forest is a working enterprise but that does not stop people from coming to the area.

Written Representations

476. The Planning Inspectorate received representations on the planning appeal from approximately 54 individuals, organisations etc.[447] Of these 12 are supportive, 40 against and the other 2 confirm the Defence Infrastructure Organisation and RWE npower's positions at the time. The Planning Inspectorate also received responses to the two common land applications from around 44 individuals, organisations etc.[448] Apart from that from the former CCW which confirms its lack of objection, all object. In addition to those already reported, the written representations raise the following additional material points:

477. Those in support of the planning application refer to increasing energy costs, the economic benefits to individual farming businesses and the area as a whole, the community benefits package and the local electricity discount scheme. Some suggest that the Alltwalis wind farm has become part of the landscape and believe that the HMP would be beneficial to the mountain. Two are of the view that the noise from the Alltwalis wind farm is not loud when compared with other background noise and one reports that 5 properties in the area have been sold recently.

478. One of those objecting to the planning application questions the lack of viewpoints from the Teifi valley. A number of concerns relate to hydrology and the possible increase in flood risk for tributaries of the Cothi and Teifi rivers. Several question the CO_2 savings attributed to onshore wind and the financial support given to it from public funds. One objector lives under the Parc Cynnog wind farm and describes the impact of constant noise and flicker at certain seasons on her living conditions.

479. The Defence Infrastructure Organisation's final position has already been reported. Insofar as RWE npower is concerned, their letter of 28 October 2013[449] acknowledges the potential for cumulative impacts to occur between the appeal proposal and their Brechfa West and Brechfa East schemes. They have liaised with the appellants acoustic consultants in order to establish noise conditions and are confident that all 3 developments could operate together in accordance with relevant policy and guidance. They do not object to the appeal proposals provided that the limits set in any noise conditions adhere to the cumulative levels permissible by the ETSU guidance.

480. Some of those objecting to the commons applications are of the view that the replacement land is too far from any road to be of any benefit to the public, others also raise the issue of flood risk, and one couple notes that the replacement land is not

[447] CD1.11

[448] CD1.19a & b

[449] Document G7

conveniently located for their stock to use. One is a falconer who regularly exercises his birds on the mountain and is of the view that the proposal would not be in his interests or those of his fellow falconers.

Conditions and Obligations

481. Possible conditions to be imposed in the event of the appeal being allowed were discussed at the Inquiry[450]. Insofar as the non-noise related conditions are concerned, the matters which remain in dispute are as follows.

482. CCC is of the view that the 'Decommissioning and Site Restoration' condition should provide for the removal and reinstatement of access tracks whilst RES consider that there may be some value in retaining certain tracks and advocate a degree of flexibility so that the decision can be taken at the time. CCC and RES have submitted alternative HMP conditions. CCC seeks a condition to provide a mitigation scheme in respect of the impact on the Crug y Gorllwyn weather radar whilst RES feel that this is unnecessary in view of the latest MoD/Met Office stance. RES are of the opinion that a 12 month period would be sufficient for the 'Television Interference' condition whilst CCC considers that 24 months would be appropriate to cater for the possibility of a property being vacant for a long period e.g. through the owner being in care, the property being part of an estate which has not been wound up or for sale.

483. Turning to noise, the format of the general noise condition is not in dispute but SMLlG recommends different and generally lower limits than suggested by RES for certain properties at certain wind speeds. RES indicated that they would accept SMLlGs night time values provided the day time values were not changed. CCC has no objection to the RES version and considers that SMLlGs goes too far although it saw no problem in enforcing it. Three alternative AM conditions were submitted on behalf of RES, SMLlG and Grŵp Blaengwen. CCC accepts the need for a condition, but is neutral as to which one should be used. Grŵp Blaengwen suggested that, if SMLlGs is to be used, the analysis at intervals of 125 milliseconds referred to in Guidance Note 5 be reduced to analysis at intervals of 100 milliseconds. RES agreed but SMLlG did not.

484. The BFEAG sought a condition requiring some restraint on the operation of the turbines during evenings and for them to be turned off at night, suggesting that this could be cost neutral. The appellants strongly resisted such a condition on the basis that it would not meet the relevant tests.

485. The appellants also suggested that a condition be attached to any *Commons Act* s.38 consent stating: 'Prior to commencement of any work hereby permitted a scheme shall be submitted to provide for compensation to the holder of any rights on the commons in respect of any disturbance to their rights in carrying out the works. Such scheme to provide an independent means of resolving any dispute as to the need for or level of compensation.'

486. As previously noted, a unilateral Section 106 Planning Obligation has also been submitted[451]. This provides for the payment to CCC of various sums and for schemes

[450] Documents CCC33, RES31-33, SMLlG11 and GBG5

relating to a bond or financial surety and temporary disturbance to be submitted and approved prior to commencement of development.

487. The rights of way improvement contribution of £60,000 is to be used for the improvement and maintenance of public rights of way within 5km of Mynydd Llanllwni. The information boards' contribution of £600 is to be used for the installation or replacement and maintenance of information boards within the planning application boundary. The HMP contribution of £1,250,000 in annual instalments of £50,000 is to enable the HMP approved under the relevant condition to be implemented. This includes expected costs for undertaking heathland management, predator control and carrion clearance, managing farmland for the benefit of bird species and biodiversity, and associated monitoring and management.

488. The bond or other financial security subject of the scheme to be submitted and approved is to secure the decommissioning and restoration of the land and payment of the HMP contribution. The temporary disturbance scheme to be submitted and approved is to provide compensation to registered commoners as a result of temporary disturbance relating to construction works. However, the relevant Schedule makes no reference to implementation of the approved scheme.

[451] Document RES35a-b

CONCLUSIONS

Bearing in mind the submissions and representations reported, and having regard to the environmental information and the likely environmental effects of the proposal, I have reached the following conclusions. The numbers in square brackets indicate the relevant source paragraphs of the report.

Procedural/legal matters

489. I am unable to settle points of law, but my views on the agricultural tenant notification and coverage of the grid connection in the environmental information are given below.

490. Insofar as the agricultural tenant notice relating to the appeal is concerned, the appellants have complied with the requirements and cannot be held responsible for any actions by Royal Mail employees. However, they accept that they did not use registered post or recorded delivery as required by s. 329 of the *Town and Country Planning Act 1990* for the one relating to the planning application. On the basis of the evidence available, it would appear that the tenant has not been prejudiced by the non-compliance with this requirement. Nevertheless, compliance with the notification requirements is mandatory and Ministers may wish to consider taking legal advice as to whether the application was a valid one before proceeding to determine the appeal. [11]

491. The ES provided an overview of the grid connection which had been proposed at that time. However, the situation has now moved on and WPD are consulting on various other grid connection corridor options. The connection and the appeal proposals are separate projects rather than parts of a single overall project. They will both be subject to separate consent procedures and appropriate EIA. This is not a case of artificial sub-division of a scheme that could lead to significant environmental effects not being assessed within the development consent process. It must be recognised that it may not always be possible for applications for new generating stations and related infrastructure to be submitted in tandem or integrated, despite the desirability of such an approach. [22, 106, 107, 339, 379]

492. The EIA Regulations require information on, amongst other matters, the indirect, cumulative and secondary effects, but they also recognise that technical deficiencies or lack of know-how could pose difficulties in compiling the required information. As a result, a judgement is required as to what is appropriate and reasonable in the circumstances. In this case, the appellants have provided all the information that they could reasonably be expected to provide. The grid connection will be required in any event to serve Brechfa Forest West, and possibly Brechfa Forest East, and I see no reason as to why it will not ultimately be approved in one form or other. I am, therefore, satisfied there is no conflict with the EIA Directive or the EIA Regulations. [106, 107, 339, 415]

Main considerations

493. Insofar as the planning appeal is concerned, it seems to me that the main considerations are:

- The effect of the proposal on the character of the site and the surrounding rural area which is designated as a Special Landscape Area.
- The effect of the proposal on the living conditions of neighbouring residential occupiers and the enjoyment of those using the site and surrounding area for recreation/amenity purposes with particular regard to visual impact.
- The effect of the proposal on the setting of Scheduled Ancient Monuments.
- The effect of the proposal on habitats, birds and ecological interests.
- Whether the proposal in combination with other developments would exceed the Welsh Government's capacity limit for the Strategic Search Area.

494. Insofar as the two applications relating to common land are concerned, based on the provisions of the *Commons Act 2006*, the main issues appear to be:

- The effect of the proposal on the interests of persons having rights in relation to, or occupying, the land (and in particular persons exercising rights of common over it).
- The effect of the proposal on the interests of the neighbourhood
- The effect of the proposal on the public interest, including nature conservation, the conservation of the landscape, the protection of public rights of access to any area of land, and the protection of archaeological remains and features of historic interest.

Landscape Character

495. Within and immediately adjacent to SSAs the implicit objective is to accept landscape change i.e. a significant change in landscape character from wind turbine development. Nonetheless, TAN 8 also recognises that all of the land within SSAs may not be technically, economically and/or environmentally suitable for major wind power proposals. As stated in 'Designing Wind Farms in Wales', good landscape design principles need to be followed to ensure that the development is appropriate for the scale and character of the landscape, and there may be a limit on the number or extent of wind farms which can reasonably be accommodated. [19, 67, 270, 323, 373]

496. Most of the site lies within the Mynydd Llanllwni Upland Plateau LANDMAP landscape character area. This has an overall evaluation of high for visual and sensory aspects, although the commentary describes it as being of high to outstanding importance scoring outstanding for rarity. It is described as being important in a county context for its 360 degree views, its feeling of exposure and its heather moorland vegetation, all of which contribute to its great sense of place. The summary description refers to a feeling of being exposed and of being wild, empty and quiet, other than when low flying jets are out. The associated VS32 Guideline refers, amongst other matters, to resisting any intrusions such as masts and wind turbines and the need to keep clean non cluttered lines. Development of wind farms is described as a significant threat to the current integrity and condition of the visual and sensory features of the area. [70, 258, 259, 326, 331, 332, 371]

497. The other LANDMAP overall evaluations relevant to the site include outstanding for the landscape habitats aspect, outstanding for the historic landscape aspect (being a

good example of an upland landscape with nationally important components), and high for the geological landscape aspect. Insofar as the cultural landscape aspect is concerned part of the site is within the 'Windfarms' aspect area which has a low overall evaluation and part is within an adjoining aspect area which has a high overall evaluation. However, this should be treated with extreme caution given that the 'Windfarms' aspect area comprises parts of the County where there are no wind farms with areas where there are such developments being placed in the 'Rural Carmarthenshire' aspect area. [260, 261, 262, 270, 331, 332]

498. The ES concludes that Mynydd Llanllwni has high sensitivity to the proposed change, that there would be a high magnitude of change, and that the significance of the effects on landscape character would be major and significant. The Council agree, describing the effect as major adverse. Notwithstanding the ES, the appellants consider the sensitivity to the proposed change to be only medium with high-medium effects on landscape character which would be significant. [65, 265, 266, 267, 335, 337]

499. According to the latest version of the GLVIA, assessing sensitivity requires judgements as to the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor to be combined. The large scale open landscape, and mostly simple lines and less complex topography, are factors which make the site less susceptible to wind turbine development. Nevertheless, the absence of large man made elements resulting in clean non cluttered lines, the lack of overt recent landscape changes, the prominent and distinctive skyline resulting from the smooth unenclosed profile of the mountain, the strong sense of remoteness and tranquillity, visual sensitivity, and the attractive extensive views all increase its susceptibility. [67, 68, 73, 257, 263, 265]

500. Although roads cross the area my own observations confirm those of the LANDMAP assessor who noted that they are used infrequently. The telecommunications masts are at the end of the common immediately adjacent to commercial forestry and have little impact on the susceptibility of the mountain as a whole. The forested areas do not have the same non cluttered lines and profile as the unenclosed moorland. The two Brechfa Forest Schemes would be within commercial forestry and Alltwalis is on semi-improved grassland: with all being in different landscape character areas. Furthermore, Alltwalis was part of the baseline for the ES and the ES considered the cumulative impacts with the two Brechfa Forest Schemes. [73, 75, 258, 266, 268, 336]

501. As a result, I consider the landscape to have a high overall susceptibility to wind turbine development. This is supported by the LANDMAP Guideline of resisting such intrusions on the Mynydd Llanllwni Upland Plateau. Given what LANDMAP states about the visual and sensory aspects, its landscape habitats, historic landscape and geological landscape evaluations, and the SLA designation, the landscape clearly has a high value. This is reinforced by the special value attached to it by a significant section of society, which is clearly evident from the evidence of SMLlG witnesses and several interested parties. High susceptibility and value results in high sensitivity. [14, 69, 263, 265, 327, 328, 329, 330, 331, 333, 371, 396, 412, 427, 434, 442, 461]

502. The introduction of 21 turbines with associated infrastructure would result in a high magnitude of change, altering Mynydd Llanllwni's perception as a wild, empty and quiet landscape to an upland wind farm landscape. In my view, such a magnitude of change would be major adverse and have a significant adverse impact on the quality of the local environment and an area designated for its landscape value. The proposal, therefore, conflicts with UDP policies UT5, UT6, GDC8, EN16 and EN20. [15, 16, 267, 325, 337, 356, 375, 396, 412, 427, 434, 442, 454, 461, 477]

503. Although the refinement exercise was not adopted by CCC, it provides a comparative analysis of the 11 zones located within and on the margins of the SSA. The proposed turbines would be located within zones 5 (4 turbines), 6 (7 turbines) and 7 (8 turbines) with 2 outside any zone. The recommended refined boundaries exclude the entire appeal site. The refinement achieved a cumulative estimated capacity of 115MW, but the 132MW maximum for SSA G could be achieved by including zone 8 which performs better than the other excluded zones. [71, 267]

504. Zone 7 is only one of two to be given an overall landscape character sensitivity of medium-high, with the others being mostly medium and one medium-low. Although zone 6 is given a medium overall landscape character sensitivity, the commentary notes that the locally rare openness of the common combined with the views mean that particularly the broad sweep of the central part of the common (where turbines would be located) is sensitive to wind farm development [medium high]. It is also identified as the least suitable zone within the SSA. Whilst the report notes that the distinction between zones is subtle and they all pass the acceptability criteria outlined, it also states that development of the lowest ranked zones would give rise to greater environmental harm in landscape and visual terms than the zones above. [71, 72]

Visual impact

505. The appellants accept that high magnitude effects would arise up to 3km from the turbines. This would affect views from within the plateau and some neighbouring areas of the Teifi Valley such as the more open views towards the site from Llanllwni and New Inn with Llanllwni experiencing relatively widespread views of the turbines. The effects on users of the common land, rights of way on Mynydd Llanllwni, and from some locations rights of way within the valley and ascending the hillside would be significant. The effects on local road users would also be significant in respect of the roads which cross the common land, and the A485 at the southern end of Llanllwni and at intermittent locations between New Inn and just north of Aber-Giâr. [83]

506. The appellants also acknowledge that further significant effects would occur beyond this radius out to approximately 6km, affecting some views from farmland to the east of the site and higher land at the western edges of valley settlements such as Pencader and Llanfihangel-ar-arth. [83]

507. Significant effects can be seen as positive or negative depending on individual perceptions regarding the merits of wind energy development. However, people currently using the commons and surrounding area for recreation/amenity purposes enjoy the perceptual qualities of a remote, wild and tranquil landscape and the presence of the proposed wind farm would have a major adverse effect on their enjoyment thereof. The above qualities are also particularly evident in views of the

north west escarpment of Mynydd Llanllwni which faces the Teifi Valley. In such views, the mountain appears as an open, treeless, undeveloped moorland unencumbered by man made structures with a prominent and distinctive skyline sitting on top of relatively small enclosures of improved grassland and is totally different to the adjoining forested area. [269, 333, 337, 341, 396, 426]

508. The turbines that would be seen in such views would appear as alien and intrusive man made features and result in significant harm to the appearance of the mountain. Although these effects would be largely reversible, 25 years is a considerable period with many people not living long enough to see the site restored. [269, 325, 335, 337, 375, 426, 427, 462]

509. My comments in respect of the refinement exercise under the previous sub-heading are also equally applicable to this sub-heading. For the reasons given in the preceding paragraphs, the proposal conflicts further with UDP policies UT5, UT6 and EN16. [15, 16]

510. Insofar as residential living conditions are concerned, the Landscape SoCG notes that the appropriate test is whether the turbines would be present in such number, size and proximity that they represent an unpleasantly overwhelming and unavoidable presence in main views from a house or garden, such that there is every likelihood the property concerned would come to be regarded as an unattractive and thus unsatisfactory (but not uninhabitable) place in which to live. [9]

511. The SEI includes a Residential Visual Amenity Assessment which concluded that 9 properties would experience a high magnitude of change, and therefore a major adverse impact, but that these impacts would not be overwhelming. The Council considers that these adverse effects, albeit not falling foul of the above test, should be put in the planning balance. Whilst I do not disagree, the weight that should be accorded to these impacts should be limited given that they would not be so severe as to fail the above test. [3, 81, 271, 341]

512. The Council is particularly concerned about the impact on the occupiers of the 3 dwellings at Rhos Wen which were not assessed in the SEI, but this was done as part of the appellants' evidence. The dwellings would face directly towards the turbines, all of which would potentially be in view in part, and all their amenity areas are to that side. However, the nearest would be some 935m away, they would not extend across the whole of the horizon, there would be a significant foreground in front of the turbines, and deciduous trees would provide some screening. I conclude that there would be a major adverse impact on residential living conditions but it would not be so severe as to be overwhelming. [82, 271, 411]

Setting of Scheduled Ancient Monuments

513. Four Bronze Age SAMs are located within the site: the round barrow at Crug Penheol, the pair of round barrows at Crugiau Giar, the round barrow at Crug y Biswal, and Crug ap Iswal. The latter is scheduled as a ring cairn, but Dr Trehy considers it to be round barrow, forming a pair with Crug y Biswal, and this is supported by the 2001 Cambria Archaeology report. Dr Carter is of the view that it is a ring cairn, but conceded that it could be a heavily robbed round barrow. At the end of the day, it is

still a SAM which benefits from statutory protection. A further two SAMs from the Bronze Age are located fairly close by: the round barrow at Crug y Bedw and the round barrow cemetery at Crugiau Edryd. CCC's concerns relate particularly to the impact on the setting of four of the above: Crug Penheol, Crugiau Giar, Crug y Biswal and Crugiau Edryd. [184, 186, 311]

514. The 2001 Cambria Archaeology report notes that the distribution and topographical siting of the monuments studied shows that their locations were very carefully chosen. Many were sited in prominent locations with commanding views over the rest of the landscape and the sites or their locations could be seen from other points, often the location of other similar monuments. Inter-visibility between sites being a pattern clearly observed during the fieldwork phase, even if the actual monuments were not directly visible their locations were. [311]

515. The more recent work by Quentin Bourgeois draws together common themes and academic agreement to the visual importance and role of round barrow monuments with three main positions being distinguished. These are that barrows were meant to be seen, demarcating boundaries between territories, that the view from a barrow is important, again explained in terms of territoriality and claims over specific areas, and that patterns of inter-visibility between barrows and groups of barrows create networks of hierarchy. [308]

516. Owing to the separation from more recent man made features such as roads, car parks and masts, the immediate setting of the rare example of a pair of well-preserved barrows at Crugiau Giar, located on the main ridge of Mynydd Llanllwni, has remained largely unchanged for a considerable period of time. This allows quiet unfettered appreciation of the commanding views and the barrows functional role as monuments that were to be visible from afar. These factors are of considerable importance to the significance of the monument and the way the place is perceived, experienced and valued by people today. [194, 306, 307, 312, 351, 352]

517. The nearest 127m high turbine would only be around 350m away, and all 21, in part at least, would be seen in a 180 degree or so arc to the east which would also feature some of the access tracks. This would replace the largely unspoilt and unchanged open moorland view in that direction, with the movement of the blades and the noise generated being distractive. Whilst sightlines towards the locations of Crug Penheol and Crugiau Edryd would be retained, the existing open views would be replaced by a 'channelled' effect. There would, therefore, be a substantial adverse effect on the setting of Crugiau Giar. [188, 189, 195, 310, 314]

518. Turning to the well preserved barrow at Crug y Biswal, the proximity of the road and Bryn Llywelyn access track detract somewhat from its setting but it is an impressive structure with the adjacent interpretation panel illustrating its amenity value. Furthermore, it is still possible to experience uninterrupted panoramic views, including across open moorland towards Crug Penheol, and these contribute to the significance of the asset and the way the place is perceived, experienced and valued by people today. Although views to the south east encompass the Alltwalis wind farm and the site of the Brechfa West wind farm, these are further away well beyond Crug Penheol. [306, 307, 309, 351]

519. The nearest 127m high turbine would only be around 400m away, and all 21, in part at least, would be seen in an 80 degree or so arc to the south west which would also feature some of the access tracks. This would replace the largely unspoilt and unchanged view over open moorland in that direction, with the movement of the blades and the noise generated being distractive. A sightline corridor towards the location of Crug Penheol would be retained, but with the same effect as described for Crugiau Giar. As a result, there would be a substantial adverse effect on the setting of Crug y Biswal. [188, 189, 195, 310, 314]

520. The barrow at Crug Penheol is not well preserved and the proximity of the road, car park and peace cairn detract somewhat from its immediate setting. Nonetheless, it is still possible to experience uninterrupted long distance panoramic views, including across open moorland towards Crugiau Giar and Crug y Biswal, and these contribute to the significance of the asset and the way the place is perceived, experienced and valued by people today. The building of the peace cairn and use of the area to scatter ashes signifies a modern reflection of what a landscape can mean to people living in the area, valuing it and the tranquillity and remoteness offered. [191, 306, 307, 310, 313, 334, 351, 412, 454]

521. The nearest 127m high turbine would only be around 290m away and all 21, in part at least, would be seen in an 80 degree or so arc to the north east which would also feature some of the access tracks. This would replace the largely unspoilt skyline and open moorland view in that direction, with the movement of the blades and the noise generated being distractive. Whilst sightlines towards Crugiau Giar and Crug y Biswal would be retained, again the effects would be as described for Crugiau Giar. I conclude that there would be a substantial adverse effect on the setting of Crug Penheol. [188, 189, 195, 314]

522. The round barrow cemetery at Crugiau Edryd is somewhat further away and, in my opinion, the presence of the turbines would not diminish the contribution that setting currently makes to the significance of this asset. The open western slope of Mynydd Llanybyther would lie between the wind farm and the barrows creating a clear topographic separation between them. Insofar as it has survived forestation to the east of the barrows, the dominant hill-top location would remain legible and relevant views would be unchanged. [189, 195, 306]

523. Whilst I note the lack of objection from Cadw, I have identified a substantial adverse effect on the setting of three SAMs such that the proposal conflicts with UDP policy BE1. The extent to which turbines interfere with visibility and impact on significance in respect of similar cultural heritage assets has been considered at other Inquiries. However, that was at a time when setting was considered somewhat more narrowly. [17, 183, 185]

Habitats, birds and ecological interests

Habitats

524. The Phase 1 survey included with the ES shows that the site is made up of wet dwarf heath, dry dwarf heath, and wet heath/grassland mosaic habitats, with small areas of blanket bog and bracken on some of the lower slopes and recognises that some of these are of County importance. The Ben Averis report notes that Mynydd

Llanllwni supports the largest extent of wet heath in Wales. The heath land communities are listed in Annex 1 of the EU Habitats Directive and should be managed to conserve their favourable condition. The site also includes habitats listed as being of principal importance in Wales under s. 42 of the *Natural Environment and Rural Communities Act 2006*. The Council contends that the site should be treated as a SINC such that UDP policy EN3 would be engaged. Whilst it may satisfy the criteria for identification, there is nothing in the UDP to suggest that a SINC can occur without designation or that the policy applies to undesignated sites. [150, 151, 213, 293, 301]

525. According to the ES, the proposal would result in the permanent loss of 10ha of heath and the temporary loss of up to 24ha of heath. The evidence submitted at the Inquiry refined these figures and shows that they represent a worst case scenario which is more than sufficient to allow for widening at bends, cuttings, embankments, cable trenches etc. The Council is concerned that the restoration of the up to 24ha would not prove successful resulting in further permanent loss, at worst, or it becoming degraded and of lower conservation value, at best. [167-169, 292, 293]

526. There is extensive experience of restoring comparable sites and I am satisfied that excessive drying out could be prevented through appropriate design and construction techniques. Nonetheless, I am not convinced that restoration to an equivalent standard within a reasonable period of time could be achieved without any control of grazing livestock, either through temporary fencing or by their removal for a period. If planning permission and the relevant common land consents were granted, shepherding would not be an option. The developer would not be precluded from making a further s.38 application for temporary fencing, but there is no guarantee that the Welsh Ministers would grant such consent. [155, 165, 166, 170-173, 175, 178, 256, 298-300, 304]

527. No examples were provided of restoring heath land habitats on common land without the co-operation of the graziers. Mr Robinson accepted that such co-operation would be beneficial and the 'Statement of Local Community Consultation' goes further describing the active graziers as key stakeholders, particularly in relation to the successful implementation of the HMP. Graziers in receipt of SFP are constrained as to what they can do, but there is no evidence that all active graziers are in receipt of such payments. In any event, grazing the common when restored areas had not recovered would not necessarily breach cross-compliance requirements. In the above circumstances, I am not reasonably satisfied that the heath temporarily lost could be restored to an equivalent standard within a reasonable period of time. [155, 165, 166, 170, 172, 175, 178, 298-300, 360]

528. Some 5.6ha of new heath land reinstatement research plots would be created through the HMP, but that would not be sufficient to replace the acknowledged permanent loss let alone any additional permanent loss due to unsuccessful restoration. Although the areas lost would be a relatively small proportion of the overall area of the commons, they would involve some of the best areas of wet heath. Furthermore, the appellants accept that there will be challenges and the success of the research plots would be far from guaranteed. [179, 295]

529. Future management of the common is critical to the further improvement of its ecological status. The HMP could provide a mechanism and funding to that end, but an

alternative would be for the Grazing Association, which has contributed to the habitats moving towards favourable condition and drafted its own HMP, to take the matter forward. A strategic approach is required and that is likely to require some control of livestock grazing. Notwithstanding the landlord's rights to undertake management activities provided that they do not unnecessarily interfere with the commoners' right of pasture, it is difficult to see how such an approach could succeed on the ground without the co-operation of the graziers. Despite experiences elsewhere and the fact that a limited number of graziers have indicated a willingness to participate, there is no guarantee that all/most would do so. [153, 154, 156-161, 181, 361, 405]

530. Given the site's distance from the Mynydd Mallaen SPA and Preseli SAC, the former qualifying by supporting Merlin, Peregrine and Red Kite with the latter being selected because of the presence of Southern damselfly, Marsh fritillary butterfly and slender green feather-moss, I do not share the Council's concerns on connectivity. [162]

531. Notwithstanding the lack of objection from NRW, for the above reasons, I consider that the proposal would have an unacceptable adverse impact on the heath land communities found on the site and would not conserve their favourable condition. This would add to the significant adverse impact on the quality of the local environment and conflict with UDP policies UT5 and UT6 previously identified. If the final balancing exercise is not supportive of allowing the appeal, the reasons for the development will not clearly outweigh the need to safeguard the nature conservation value of the site which comprises a habitat recognised in the UK BAP and there would be conflict with policy EN9 as well. [15, 182, 295]

Birds and other fauna

532. The Council's concerns relate specifically to collision risk to red kite and golden plover as well as disturbance to breeding curlew, although CCW (now NRW) raised no such concerns. For red kite, the ES predicts 5.9 collisions per year, based on a 98% avoidance rate, which would be equivalent to an increase of 1.4 – 1.6% on the background mortality rate for the Welsh population. With the benefit of additional survey data, the SEI predicts 6.2 collisions per year on the same basis. The ES states that anything over a 1% increase would result in a significant decline in the population. Dr Percival was of the view that anything over a 1% increase should be described as non-negligible, but this is only the same as stating that only increases of 1% or less should be considered negligible. [3, 4, 122, 123, 142-146, 179, 284-285, 346]

533. Dr Percival has undertaken a further review in the light of recent developments in modelling, new evidence from existing wind farms, changes in baseline populations and changes in guidance. He predicts 1.79 collisions per year, based on a 98% avoidance rate, which, when assessed in the context of the Welsh population, represents a 0.16% increase over the baseline background mortality which would be negligible. The prompt removal of carcases, which would be facilitated through the HMP, would further reduce the risk. [142-146, 179]

534. For golden plover, the ES predicts 236 collisions per year, based on a 98% avoidance rate, which would be equivalent to an increase of 7.2 - 10.7% on the background mortality rate for the Welsh wintering population, which would be significant. With the benefit of additional survey data, the SEI predicts 122 collisions per year on the same basis, which would still be significant. Dr Percival's further

review predicts 92 collisions per year based on a 98% avoidance rate. When assessed in the context of the Welsh population, this represents a 0.77% increase over the baseline background mortality, which would not be significant. [3, 4, 131, 132, 135-137, 286, 287]

535. It would also appear that golden plover are just as good at avoiding wind turbines as geese, for which SNH has recently revised the recommended avoidance rate to 99.8%. The site is one used occasionally by high numbers rather than one used regularly by important numbers, with the predicted mortality rate being heavily skewed by the numbers observed over two consecutive days in October 2008. Excluding that data would reduce the mortality rate by 81%. [133-134]

536. The surveys on which the above conclusions are based depart from SNH guidance in several respects. Given that these were not highlighted, which is itself contrary to the guidance, CCW, RSPB and other consultees would not have been aware of the departures when reviewing the environmental information. Nonetheless, most if not all of the missing information is now available, any assessment can only be based on guidance current at the time, and it would be appropriate to look at the practical implications of these departures before condemning them outright. [108, 275, 276, 345]

537. Notwithstanding the possible under observation of Golden Eagle at Stacain, in this case Dr Percival's responses indicate that the departures have not resulted in any potential impacts being underestimated. Indeed, the evidence leads me to conclude that the ES overstates the likely impacts on both of these species and that there would be no significant effects on either insofar as collision risk is concerned. [110-120, 132, 138, 146, 277-283, 290, 291]

538. The appellants acknowledge that some displacement of breeding curlew could occur, but the balance of the evidence suggests that, if it did occur, it would only be small scale relocation. The upland habitat in the area has the potential to support up to 18 pairs of breeding curlew whereas surveys identify the presence of 4 pairs at most, 2 of which were further than 800m from any proposed turbine. A good proportion of that habitat lies over 800m from any turbine such that 2 pairs relocating further from the turbines could easily be accommodated. Predation is an important factor in the decline of ground nesting birds, including curlew. The HMP would provide an increased level of predator control, including foxes, crows, weasels and stoats. In my view, this would be extremely beneficial to curlew and other ground nesting birds. [125-130, 179, 408]

539. Further measures in the HMP include the creation of a wader scrape and wet grassland to provide enhanced habitat away from the turbines for curlew and golden plover and providing over wintered stubbles as autumn/winter feeding for golden plover. Whilst these measures would be of general biodiversity benefit, I am less convinced of their specific benefits to curlew and golden plover given the size, location and enclosure of the relevant parcels. It is also suggested that the enhanced heath land management proposed under the HMP would benefit curlew and golden plover, but I have considerable doubts about the deliverability of such measures without the co-operation of the graziers. Notwithstanding the above, for the reasons given in

preceding paragraphs, I do not consider that the proposal would have an unacceptable effect on red kite, golden plover or curlew. [140, 141, 179, 273, 289]

540. Interested persons raise concerns about the impacts on other bird species, but there is no substantive evidence to support these concerns [121, 347-349, 408, 458, 462, 464, 465]. Whilst the concerns relating to the impact on honey bees is noted, it is largely based on experience in the USA and no scientific evidence was submitted to show that UK wind farms have caused the impacts described [456-457].

SSA Capacity

541. The ministerial letter of July 2011 expects all decision makers to respect the fact that SSAs have a finite environmental capacity and output should not exceed the maximum levels outlined. For SSA G that maximum level is 132MW and it is not my role to challenge the validity of that figure. No mention is made of increasing output in one SSA as a trade off for other SSAs not achieving their stated maximum or not providing any capacity at all. Whether or not the figure would be exceeded in this case is influenced by 3 factors: Brechfa Forest East, treatment of turbines outside the SSA boundary and actual installed capacity. [52, 53, 54, 56, 61, 64, 222, 223, 354]

542. CCC has now resolved to grant planning permission for Brechfa Forest East subject to completion of a s.106 agreement. Neither the ministerial letter nor TAN 8 give any specific guidance as to what to do with turbines located outside the SSA boundaries but within the 5km margin recommended to allow consideration of technically feasible areas. On a strict interpretation, it is arguable that, as the finite environmental capacity relates to the defined SSA, any turbines outside the SSA should not be counted. [46, 53, 55, 353]

543. Nonetheless, the SSA boundaries are at a "broad brush" level and are not well defined, and additional turbines on the margins of the SSA physically and visually forming part of the overall development would contribute to the overall environmental impact, such that they should be counted. This approach is supported by WG counting all the operational Alltwalis turbines in its 2013 Review of Wind Farm Development, although that could depend on how the LPA submitted the underlying data. Furthermore, in this case the additional turbines would be located in an area with higher landscape character sensitivity than that where the rest of the turbines would be located. [46, 53, 55, 353]

544. Installed capacity will vary depending on the turbine selected and efficiency decreases with increasing capacity. Of the 4 schemes relating to SSA G only Alltwalis is built and operational with the current installed capacity being 2.3MW per turbine. It would appear that the possibility of increasing capacity is being investigated, but there is no certainty that this will go ahead. Taking Alltwalis as it is, with the two Brechfa Forest schemes having 2-3MW turbines and the appeal proposal having 1.8-2.3MW turbines, the total output of the 71 turbines (5 more than the 66 from Garrad Hassan) would range between 140.8MW and 191.3MW. Using the appellants' most likely figure of 2.3MW all round would result in 163.3MW. Even if the strict interpretation was adopted and the turbines on the margins discounted there would be 142.6MW from 62 turbines under this scenario. [25, 46, 47, 48, 58, 389]

545. I conclude that the proposal in combination with other developments would exceed the WG's capacity limit of 132MW for SSA G. Whilst that might not in itself justify dismissal of the appeal, it is supportive of the view that the finite environmental capacity of SSA G would be exceeded. [49, 452]

Further matters raised by interested parties

Noise

546. Subject to appropriate conditions, neither the Council nor SMLlG, both of whom engaged independent noise experts, object to the proposal on the basis of noise. Grŵp Blaengwen raises concerns as to whether Alltwalis was considered part of the prevailing background noise. Whilst the ES and SEI make no specific reference, the ES states that the assessment accords with the recommendations and guidelines of ETSU and, in the absence of any evidence to the contrary, it would not be unreasonable to assume that it accords with the recommendations and guidelines in all respects, including in relation to dealing with existing wind farms. [3, 84, 87, 340, 382-387, 390]

547. The ES also notes that, with the exception of Bryngolau, the predicted noise levels from Alltwalis may be considered negligible in a cumulative noise context. In such a situation, any upgrading within prescribed limits is unlikely to make a significant difference. Whilst the Alltwalis conditions have a different basis from those for Brechfa Forest West and recommended in this case, I am not convinced that this would present an insurmountable difficulty. [3, 87, 389]

548. The Cumulative Assessment appendix to the ES shows that predicted noise levels from Alltwalis, Brechfa Forest (West and East together) and the appeal proposal would be within the limits advocated at the time, including at Bryngolau. The modelling appears to take account of the hub height of each turbine and receiver heights of 4m above local ground level and wind speed calculations include a wind shear exponent. [3, 390]

549. Although my recommended conditions include lower limits, the position would remain unchanged apart from at certain wind speeds at the eight or so properties which arc around from Clyniau to Penygarreg (including Bryngolau). However, the predictions assume downwind propagation from all turbines to all receivers and these dwellings are in locations where they cannot be directly downwind of Alltwalis/Brechfa Forest West and the appeal proposal at the same time. Furthermore, the candidate turbine is amongst the loudest at the most critical wind speeds when compared to others on the market and it is possible that a quieter one would be selected at the end of the day. [388]

550. It is, therefore, unlikely that the limits of the recommended conditions would be exceeded at any property with all four wind farms operating, but it must be recognised that a number of dwellings would experience noise effects for a greater proportion of the time. [84, 390, 391]

551. The status quo insofar as noise could clearly not be maintained and there could well be some disruption to Mr Keenlyside's work as an international singer and singing teacher. The concerns in relation to low frequency noise and the references cited by Mr Griffiths are noted. However, other sources cited in the ES, including a Department for Trade and Industry report, indicate that there is no evidence that low frequency

noise emitted by wind turbines cause human health effects. In my view, the suggested conditions, including in relation to AM, would offer a reasonable degree of protection to neighbouring residential occupiers without placing unreasonable restrictions on the development or adding unduly to the appellants and LPA's costs and administrative burdens. [343, 382-391, 404, 422, 427, 446, 460, 466-467, 468-469, 477, 478]

Tourism

552. The ES recognises that tourism in the area is predominantly from walkers, equestrians and cyclists who use the public rights of way that exist on the site and in surrounding areas. Prof. Aitchison's Tourism Impact Analysis Report concludes that although a very small number of current visitors might choose not to repeat their visit because of the presence of a wind farm this number is likely to be off-set by additional tourists who visit irrespective of the presence of a wind farm, return because of the wind farm or visit for the first time because of the wind farm. [3, 103, 397, 416, 420, 441, 445, 462]

553. Nonetheless, in this case the evidence from those who have indicated that they would not come again if the wind farm was built, with one going to the trouble of appearing at the Inquiry, suggests that numbers might not be so small, although I accept that some could change their minds after the wind farm was built. Some might displace to other parts of the County, but that would be of little consolation to those who operate holiday accommodation businesses in the immediate area. Furthermore, a high proportion of existing visitors come because of the mountain's landscape, views, peace, quiet and tranquillity and if that is lost or damaged there is no guarantee that they would be replaced in the same numbers by those visiting for the first time irrespective of the presence, or because, of the wind farm. There could, therefore, be a material negative impact on holiday accommodation businesses in the immediate area. The proposals could also be detrimental to community led initiatives to promote Llanllwni Mountain. [103, 367, 371, 376, 396, 402, 409, 410, 416-419, 422, 425, 437, 442-444, 447, 462, 464]

Traffic

554. All large construction projects impact on traffic conditions on roads in the vicinity to some degree albeit on a temporary basis. Unlike many other construction projects, wind energy proposals generate Abnormal Indivisible Loads (AILs) which can be particularly disruptive and inconvenient to local residents. However, such impacts would be minimised through the provisions of the Construction Traffic Management Plan and Community Liaison conditions. The Construction Traffic Management Plan condition also includes requirements in respect of such matters as swept path analysis, trial runs, passing bays, Safety Audit, making good damage and junction/crossing management. [1, 378, 402, 415, 423, 432]

555. The red line boundary includes the road between New Inn and the site entrance as well as parts of the A485 with the location of passing bays and proposed widening being adequately described in the ES. My understanding is that provision of emergency services during an AIL movement is part of the pre-planning undertaken for such movements. The traffic movements estimated in the ES are based on all stone for on-site access tracks being imported, thereby representing a worst case. I also note

that there are no objections from the trunk road authority or CCC as local highway authority. [3, 12, 378, 402, 423, 432]

Other matters

556. Energy production from onshore wind is, in principle, supported by PPW [19]. Whilst I have reported the objections made to onshore wind as a means of electricity generation, it would not be appropriate for me to comment further [403, 440, 447, 458, 470-471]. Planning is a devolved matter and pronouncements by Westminster ministers and what other countries do are of limited relevance [401, 440]. Whilst I am unable to comment on any infringements at other locations, compliance with planning conditions is a matter for the LPA and it must be assumed that conditions would be appropriately enforced [414].

557. According to TAN 8, experience indicates that properly designed, erected and maintained wind turbines are a safe technology. It also states that the very few accidents that have occurred involving injury to humans have been caused by failure to observe manufacturers' and operators' instructions for the operation of the machines and there has been no example of injury to a member of the public. At least one manufacturer advises that no one should stay within prescribed distances of a turbine unless necessary, but I see no need for any member of the public to remain within these distances for any length of time. The TAN indicates that the build up of ice on turbine blades is unlikely to present problems on the majority of sites in Wales. As noted in the ES, detailed risk analysis and avoidance limitation measures would be required by the *Construction (Design and Management) Regulations*. If necessary, these could include for the possibility of encountering World War II munitions. [3, 19, 344, 409, 423, 428-431]

558. Insofar as riders are concerned, the topography would ensure that no turbines suddenly loomed into view and riders would be able to judge how close they could approach in the knowledge of the individual characteristics of their own horse. [100-102, 430, 475]

559. TAN 8 recognises that shadow flicker can be disturbing and even have the potential to be a health problem for people who are photo-sensitive epileptics, but the problem is seasonal and only lasts for a few hours per day. In this case, the ES notes that the proposed turbines would rotate at well below what appears to be the critical rotational speed and no houses would be within 10 times rotor diameters above which a number of sources indicate that disturbance from shadow flicker is unlikely to be experienced. According to the TAN, the effect of flashes of reflected light can be reduced by careful choice of blade colour and surface finish. Conditions are proposed in respect of shadow flicker and blade colour/finish. [1, 3, 19, 409, 446, 478]

560. TAN 8 notes that, provided careful attention is paid to siting, wind turbines should not cause any significant adverse effects on communication systems which use electromagnetic waves as the transmission medium (e.g. television, radio and microwave links) [19, 409]. A condition in respect of television interference is also proposed [481]. Insofar as property prices are concerned, there is conflicting evidence with one property having been on the market for over 2 years although 5 other properties have been sold recently [369, 436, 447, 477]. Individual property prices

are influenced by a wide range of factors and no clear conclusions can be drawn from the limited evidence submitted.

561. To the extent that the planning system is able to do so, the Construction Traffic Management Plan, secured by a planning condition, would limit the potential for damage to properties along the access route [1, 433]. Mrs Davies ascribes the lambing losses and falling/moving items to ground transmitted vibration from construction equipment [459]. Nonetheless, there is no conclusive evidence to that effect and, even if there was, it could not be inferred that the construction of the appeal proposal, being further away, on different ground and in a different direction, would have a comparable impact.

562. The use of drainage measures to minimise any change to the hydrology and groundwater conditions within the site, as identified in the ES and covered by proposed conditions, would provide adequate mitigation in respect of flood risk [1, 3, 478, 480]. In the absence of a sustained objection from the MoD, it would be reasonable to assume that there would be no unacceptable impact on the aviation radar at Aberporth [381]. TAN 8 makes it clear that the provision of benefits is on a purely voluntary basis with no connection to the planning application process. As a result, no weight whatsoever can be given to the proposed community benefit fund and subsidised electricity for local residents [438, 473, 477].

Conditions and obligation

563. The issue of whether the access tracks should be removed and reinstated could be adequately resolved by requiring it unless the LPA has otherwise agreed beforehand. MoD/Met Office have reached an agreement with RES, and I have no reason to believe that this would not provide adequate safeguards in respect of the weather radar such that a condition is unnecessary. Whether that agreement should be in the public domain is not a land use planning matter. I agree with CCC that 24 months would be an appropriate period to insert in the 'Television Interference' condition for the reasons given. Specifying infra-red aviation lighting in the relevant condition would address any concerns as to the visual impact of such lighting. [26, 380, 427, 481, 482]

564. Insofar as the HMP condition is concerned, I see some merit in the appellants' approach of splitting it into two phases, but the condition should be strengthened by the importation of aspects of the Council's version not contained in the appellants. Whilst I foresee no great difficulties in enforcing against non-submission of a scheme, there is no firm commitment from the majority of the graziers to the implementation of the approved HMP and I regard that as being critical. In addition, the Crown Estate Commissioners have not agreed to the Council being given the ability to take enforcement action against the Crown, if necessary. That would preclude the Council from entering onto the land to carry out any works in default, even though it would be in receipt of the HMP contribution. As a result, I share the Council's concerns as to the enforceability of any HMP condition insofar as securing implementation is concerned. [210, 245, 246, 247, 248, 249, 250, 482]

565. At lower wind speeds where fixed limits apply, the appellants suggested noise condition includes various daytime lower limits within the ETSU 35-40dB (A) range, depending on the ability of the wind farm to achieve them. In my view, it is

inequitable for one property to be subject to a different limit to another on that basis. All neighbouring occupiers not having a financial interest in the scheme should have the same level of protection. The loss of power generated through using 35dB (A) would be less than 1%. As topography could result in wind generated background noise remaining low in sheltered locations when turbines at a higher elevation would be operating at relatively high wind speeds, it would be appropriate to use the bottom of the range. [84, 85, 86, 340, 483]

566. At lower wind speeds where fixed limits apply, the appellants suggested night-time limit is 40dB (A) whilst SMLlG opt for 38dB (A). The latter is based on updating the ETSU limit of 43dB (A) to take account of a more recent World Health Organisation guideline value for sleep disturbance and this seems a sensible approach. However, there is no policy support for the restrictions sought by BFEAG which would be unduly restrictive and unreasonable. [84, 85, 86, 340, 483, 484]

567. The AM from modern turbines differs from that identified in ETSU, the number of sites attracting complaints about AM has increased, and there is a risk of AM occurring at this site, albeit that there is some disagreement about the likelihood. The appellants now accept the need for an AM condition and, for the above reasons, I agree. The current state of scientific knowledge about AM is limited and in a state of transition, but the further study being undertaken should assist in that respect. [88, 89, 90, 91, 96, 97, 340, 392, 393, 394, 395]

568. The conditions submitted by SMLlG and RES would enable the latest scientific understanding to be taken into consideration at the time any complaint was being investigated whereas that advocated by Grŵp Blaengwen would not. On balance, I favour that suggested by SMLlG as being more precise. Whether or not the analysis interval is 125 milliseconds or 100 milliseconds does not appear to be particularly critical and I see no reason to change it from that suggested by SMLlG. [90, 91, 95, 96, 97, 98, 340, 394, 483]

569. A schedule of recommended planning conditions that generally comply with the guidance of Welsh Office Circular 35/95 together with reasons is set out in the Annex to this report. Notwithstanding concerns as to enforceability of any HMP condition, I have included such a condition in case Ministers do not share these concerns.

570. I can find no basis or precedence for imposing the suggested compensation condition, which recognises the possibility of disturbance, on any *Commons Act* s.38 consent. Some graziers might well be content to accept some temporary disturbance of their rights in exchange for compensation. However, others might not, preferring to be able to exercise their rights without hindrance. [201, 255, 485]

571. Turning to the Section 106 Planning Obligation, the rights of way improvement and information boards contributions are not contentious and they would be necessary to make the development acceptable in planning terms; are directly related to the development; and are fairly and reasonably related in scale and kind to the development. As a result, they satisfy the *Community Infrastructure Regulations 2010*, as amended (CIL Regulations) and can be given weight accordingly. [10, 209, 484, 486]

572. The HMP contribution would also be necessary to make the development acceptable in planning terms; is directly related to the development; and fairly and reasonably related in scale and kind to the development. Unlike the other contributions which are to be paid before development commences, this would be paid in instalments over the lifetime of the development. By itself, this carries a greater risk of non-payment at some stage but that eventuality is catered for by the bond or other financial security provision encompassing payment of the HMP contribution. As a result, it satisfies the CIL Regulations and can be given weight accordingly. [209, 486]

573. The bond or other financial security provision was introduced late in the day, albeit in response to concerns raised by the Council. Given the nature and relatively long lifetime of the development, I consider that it is necessary in order to guarantee decommissioning and the restoration of the land as well as the HMP contribution referred to in the preceding paragraph. It satisfies the CIL Regulations and, again, can be given weight accordingly. [10, 209, 487]

574. The temporary disturbance scheme was also introduced late in the day. It would be an alternative to a condition on any *Commons Act* s.38 consent. Nevertheless, compensation to registered commoners is a private matter between the relevant parties such that the scheme is not necessary to make the development acceptable in planning terms. It does not, therefore, satisfy the CIL Regulations and should not constitute a reason for granting planning permission. Furthermore, the lack of any reference to implementation of the approved scheme makes the requirement worthless in any event. [10, 201, 209, 255, 487]

Planning balance and overall conclusion on planning appeal

575. The proposal would contribute to the UK target of 15% of energy to be derived from renewable sources by 2020 and the WG's aim of having 4.5KWh/d/p of installed onshore wind capacity by 2015/2017. The planning system has an important role in delivering the above target and aim with the latter to be achieved by, amongst others, optimising the use of the existing SSAs. Nonetheless, TAN 8 recognises that not all the land within an SSA may be environmentally suitable for major wind power proposals and the Minister's letter of July 2011 confirms that all SSAs have a finite environmental capacity and output should not exceed the maximum levels outlined. That does not support the suggestion that use of the grid connection should be maximised. [27-38, 50, 57, 59, 60, 64, 216, 220-223, 226, 323, 357]

576. A balance, therefore, needs to be struck between the benefits of generating electricity from renewable onshore wind and the identified impacts on the character and appearance of the SLA, the settings of SAMs, and heath land habitats, as well as the conflict with the statutory development plan and the potential impact on holiday accommodation businesses and community led initiatives to promote Llanllwni Mountain. In my view, these impacts, conflict with policy and potential impacts demonstrate that this part of the SSA is not environmentally suitable for major wind power proposals. I consider that the balance lies on the side of retaining Mynydd Llanllwni as a special place free from such development and I conclude that the appeal should be dismissed. [215, 233, 368, 372]

Interests of persons having rights in relation to, or occupying, the land

577. Insofar as the quality of the exchange land is concerned, I found Parcel 4 to be particularly wet in places and it could well harbour liver fluke with parts of Parcel 1 being too steep and heavily vegetated to be of any real benefit from a grazing perspective. Although I am not entirely convinced that the remainder of the exchange land would "rough up" in such a short time as suggested by Mr Davies, it would still provide useful grazing straight away. The areas of Parcels 2 and 3 and the less steep parts of Parcel 1 available immediately on exchange would exceed the release land area and the area lost to access tracks. [196, 197, 321, 375, 406, 407]

578. However, that does not take account of the additional areas where temporary works would be undertaken during the construction period. Taking Parcel 4 and parts of Parcel 1 out of the equation for the reasons given above, I am not convinced that adequate compensatory grazing would be provided during the construction period, even if the construction works were limited to 25 ha or so rather than the stated maximum of 35 ha and the area unavailable at any time was further reduced by phasing. I have already commented on the suggested compensation measures in paragraphs 569 and 573 above. [199, 200, 201, 321, 406]

579. The areas with the highest grazing pressures appear to be the main hefting locations on the edges of the commons. The exchange parcels would be more likely to be used by stock hefted to adjacent areas than areas further away. This is demonstrated by the existing lack of an effective boundary between the common and Parcel 1 not having distorted grazing patterns. Mr Patterson acknowledged that the exchange land would be of potential benefit to the commoners in the long term and the increased area of the commons could result in greater payments from agricultural support mechanisms based on land area. [196, 198, 321, 407]

580. For the above reasons, the interests of persons having rights in relation to, or occupying, the land would be likely to be compromised by the proposals, albeit only for the construction period. [362]

Interests of the neighbourhood and the public interest

581. The identified impacts on the character of the site and the surrounding area, the enjoyment of those using the site and surrounding area for recreation/amenity purposes, the setting of SAMs, and heath land habitats, as well as the potential impact on holiday accommodation businesses and community led initiatives all point to the scheme not being in the interests of the neighbourhood. The major adverse visual impact on residential living conditions and the noise effects would also not be in the interests of the neighbourhood. I have no evidence that there are rights to cycle across the commons, other than on existing roads. The nature of the track surfaces would not be conducive to use by those in wheelchairs and the tracks could also attract motorcyclists as appears to have happened at Mynydd y Betws. As a result, no appreciable benefit to the interests of the neighbourhood would derive from the access tracks. [205, 362, 363, 413, 474]

582. There is considerable overlap between the interests of the neighbourhood and the wider public interest. I have already concluded that the proposal would have an

unacceptable adverse impact on the heath land communities found on the site and would not conserve their favourable condition and this amounts to a negative impact on the public interest in nature conservation. I have also identified a major adverse effect on landscape character, and this would be in direct conflict with the public interest in the conservation of the landscape. [206, 362, 364, 367]

583. The public interest in the protection of public rights of access to any area of land would not be directly impacted upon to any significant degree. Although I have identified harm to the setting of SAMs, there would be no direct impacts on the monuments themselves or the public interest in the protection of archaeological remains and features of historic interest. Nonetheless, the broader public interest extends to one's experience of using public rights of access and appreciating archaeological remains and features of historic interest in their wider setting.

584. Altering a wild, empty and quiet landscape to an upland wind farm landscape would significantly alter such experiences for those using the site and surrounding area for recreation/amenity purposes or seeking to appreciate the SAMs in their wider setting. This would not be in the broader public interest. Furthermore, less confident riders would be reluctant to ride within a certain distance of the turbines, although they would not be precluded from doing so. It would also be against the public interest to permit proposals which would effectively discourage some members of the public from enjoying rights of access. [206]

Any other matters considered to be relevant

585. The *Commons Act 2006* also requires the appropriate national authority to have regard to any other matter considered to be relevant. In my view, the need for renewable energy is such a matter and that, subject to planning permission, allowing the applications would facilitate contributing to meeting that need. It could also be argued that the national need for renewable energy is a public interest although not one specifically listed in the relevant parts of the Act. Either way, it clearly requires to be considered when undertaking the overall balancing exercise. [207, 318, 319, 320]

Overall conclusion on common land applications

586. If Ministers accept my recommendation that the planning appeal should be dismissed, the scheme would not be able to proceed and there would be no need to deregister or to undertake restricted works on common land such that both applications should be refused. However, if Ministers do not accept my recommendation and allow the planning appeal, the impact on graziers' rights during the construction period, and conflict with the interests of the neighbourhood and the public interest, including in nature conservation and the conservation of the landscape, needs to be balanced against the national need for renewable energy. In my opinion, the balance clearly lies with safeguarding the graziers' rights, the interests of the neighbourhood and the public interest, including in nature conservation and the conservation of the landscape, such that both applications should be refused.

Recommendation

587. I recommend that the planning appeal be dismissed and the common land applications be refused.

E Jones

Inspector

APPEARANCES

FOR THE LOCAL PLANNING AUTHORITY:

Miss T Douglass, of Counsel	instructed by Mr S Murphy, Solicitor to the Council
She called	
Ms M Bolger CMLI DipLA BA PGCE BA	Gillespies LLP
Dr T Reed	Ecotext Ltd.
Ms R A Carmichael MA MSc	Carmarthenshire County Council
Mr A J Patterson MA MSc	Carmarthenshire County Council
Mr J Trehy BA MIfA	Terence O'Rourke Ltd.
Mr R Jones BSc(Hons) MRTPI	Carmarthenshire County Council

FOR THE APPELLANTS:

Mr C Innes, Partner in Shepherd & Wedderburn	instructed by Mrs C Tracey of Burges Salmon LLP
He called	
Mr C Goodrum BSc(Hons) DipLA	LDA Design Consulting LLP
Dr S M Percival BSc(Hons) PhD MCIEEM	Ecology Consulting
Mr C Robinson BSc(Hons) MSc	Natural Power
Mr J E Davies MRICS	Bob Jones Prytherch and Co Ltd.
Dr S Carter BSc PhD MIfA FSAScot	Headland Archaeology (UK) Ltd.
Mr D I Stewart MA(Cantab) DipTP MRTPI	David Stewart Associates
Dr A R McKenzie PhD BSc FIOA	Hayes McKenzie Partnership Ltd.

FOR SAVE MYNYDD LLANLLWNI GROUP:

Miss M Ellis QC	instructed by Mr W Jones of Bevan Jones, Solicitors
She called	
Mr D Ablett	Save Mynydd Llanllwni Group
Mr S Keenlyside	Save Mynydd Llanllwni Group
Mr P Wilson	Save Mynydd Llanllwni Group
Mr J Jones	Save Mynydd Llanllwni Group
Mr D F Sharps CEng FIMechE FIOA	Sharps Acoustics LLP (Mr Sharps did not give evidence but contributed to the discussion on noise conditions)

INTERESTED PERSONS SUPPORTING THE PROPOSAL:

Mr T Joynson	Landowner Bryn Llywelyn
Ms M Elms	Local resident

INTERESTED PERSONS OBJECTING TO THE PROPOSAL:

Cllr L Davies Evans	Ward member
Prof D Thorne	Llallwni Community Council
Ms C Dugdale	Grŵp Blaengwen
Mr E J Marynicz MSc	Grŵp Blaengwen (Mr Marynicz also gave evidence in an individual capacity)
Mr M Stigwood	MAS Environmental on behalf of Grŵp Blaengwen
Mrs L Chesshire BA(Oxon) CertEd	Teifi Valley Tourism Association
Mrs D Organ	Llanfihangel Rhos-y-Corn & Llanllwni Grazing Association
Miss C Evans	Brechfa Forest Energy Action Group
Ms J Gardiner	Brechfa Forest and Llanllwni Mountain Tourism Cluster Association
Mr J Williams	Ramblers - Lampeter Branch
Mrs V Kincaid	Local resident
Mr E J Razzell BSc(Econ) MSc(Public Administration (LSE))	Local resident
Mrs K Hamza	Local resident
Miss B Edwards	Local resident
Mr W Edwards	Interested person
Mrs O Davies	Local resident
Ms M Fearn	Local resident
Mr E Hunter	Interested person
Mr J Shepherd Foster	Local resident
Mr E Griffiths	Local resident
Mr T Shaw	Local resident

DOCUMENTS

CORE DOCUMENTS

1. Planning Application and Appeal Documents

CD 1.1	Planning Application Form
CD 1.2	Statement of Community Involvement
CD 1.3a	Design and Access Statement
CD 1.3b	Planning Statement
CD 1.3c	Planning Application Drawings
CD 1.4 Volumes I – III	Environmental Statement (Volume II in 2 binders)
CD 1.5 Volumes I – III	Supplementary Environmental Information – March 2012 (Volume II in 2 binders)
CD 1.6	Supplementary Environmental Information – August 2012
CD 1.7	Committee Report and Addendums
CD 1.8	Local Planning Authority's Decision Notice
CD 1.9	Planning Appeal Form (including Appeal Grounds)
CD 1.10	Local Planning Authority's Questionnaire
CD 1.11	Third Party Representations on the appeal
CD 1.12	Council's Outline Statement of Case
CD 1.13	Appellants Outline Statement of Case
CD 1.14	Council's Detailed Statement of Case
CD 1.15	Appellants Detailed Statement of Case
CD 1.16	SMLIG Statement of Case

CD 1.17a-b Section 16 Common Land Application

CD 1.18a-b Section 38 Common Land Application

CD 1.19a-b Responses received by PINS on s16 and s38 applications

CD 1.20 Statement of Common Ground

CD 1.21 Landscape Statement of Common Ground

CD 1.23 Council's Response to Statement of Case

CD 1.24 Appellants response to Statement of Case

CD1.25 Council's Scoping Opinion

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CD 3.15 Overarching National Policy Statement for Energy (EN-1) (June 2011) (See CD 3.8)

CD 3.16 National Policy Statement for Renewable Energy Infrastructure (EN-3) (June 2011) (See CD 3.9)

CD 3.17 The Cabinet Written Statement on the future direction of planning for renewable energy in Wales (June 2010)

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CD 3.19 Practice Guidance: Planning for Renewable and Low Carbon Energy – A Toolkit for Planners – July 2010

CD 3.20 Letter by J Griffiths (Minister for Environment and Sustainability) – dated July 2011

CD 3.21 Carmarthenshire County Council TAN 8 Annex D Study of SSA G: Brechfa Forest (September 2006)

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CD 3.23 Energy White Paper 2003 (Executive Summary only)

CD 3.24 Facilitating Planning for Renewable Energy in Wales: Meeting the Target – ARUP Review of Final Report of June 2005

CD 3.25 Garrad Hassan Report – Energy Assessment of TAN 8 Wind Energy Strategic Search Areas 14 April 2005

CD 3.26 Research: SSA Reassessment and Validation Report – July 2010 by Arup

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8. Ornithology

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9. Wind Farm Appeal, Section 36 Electricity Act and Common Land Act Decisions

CD 9.1 Carsington – Decision (APP/P1045/A/07/2054080)

CD 9.2 Mynydd y Betws, Wales (A-PP121-07-qA739201)

CD 9.3 Earls Hall Farm, England (APP/P1560/A/08/2088548)

CD 9.4 Carland Cross, England (APP/D0840/A/09/2103026)

CD 9.5 Burnthouse Farm/Staffurth's Bridge (APP/D0515/A/10/2123739 / APP/D0515/A/10/2131194) Conclusions and Decision Letter

CD 9.6 Land south of A465, Hirwaun, Rhondda Cynnon Taff (APP/L6940/A/07/2058755)

CD 9.7 Mynydd Bwllfa, Wales, 01.06.2012 (APP/L6940/A/11/2161275)

CD 9.8 Mynydd Pwllyrhebog, Wales, 14.12.2011 (APP/L6940/A/11/2147835)

CD 9.9 Wern Ddu, Wales, (APP/R6830/A/05/1185359)

CD 9.10 Mynydd James, Blaina, Blaenau Gwent APP/X6910/A/09/2107007

CD 9.11 Mynydd y Gwair, Swansea (APP/B6855/A/09/2114013)

CD 9.12 Gorsedd Bran, Nantglyn, Denbighshire (APP/R6830/A/08/2074921)

CD 9.13 Planning Act 2008 decision and Inspector's Report – Brechfa Forest West Wind Farm, Carmarthenshire

CD 9.14 Electricity Act 1989 Section 36 decision – Pen y Cymoedd, Neath PT and Rhondda CT

CD 9.15 Land west of Enifer Downs Farm APP/X2220/A/08/2071880

CD 9.16 Bicton Industrial Estate, Kimbolton, Cambridgeshire, APP/H0520/A/11/2146394

CD 9.17 Oldbury on Severn, Thornbury, South Glos. APP/P0119/A/11/2154175

CD 9.18 Beechbarrow Farm, Hillgrove, Wells, Somerset APP/Q3305/A/12/2185032

CD 9.19 Draughton Harrington, Northamptonshire APP/Y2810/A/10/2125093

CD 9.20 Middle Moor/Matlock Moor, Derbyshire APP/R1038/A/09/2107667, APP/P1045/A/09/2108037

CD 9.21 Mynydd Pwllyrhebog, South of Clydach Vale, North West of Gilfach Goch. APP/L6940/A/11/2147835 (See CD 9.8)

CD 9.22 Lairgandour, Daviot, near Inverness PPA-270-2080

CD 9.23 Glenchamber, Glenluce PPA-170-2028

CD 9.24 Todmorden Moor and Lower Moor Common (Com216)

CD 9.25 Mynydd y Gelli (APP/Y6930/A/12/2181883) (aka Llynfi Afan)

CD 9.26 Land south-west of Ayton, Berwickshire PPA-140-2044

10. Miscellaneous

CD 10.1 CCC Consultation response to Brechfa West

CD 10.2 Brechfa West Statement of Common Ground between RWE and CCC

CD 10.3 Combined Information Plan (showing HMP areas, s38 infrastructure and s16 exchange land)

11. Noise

CD 11.1 ETSU-R-97

CD 11.2 The 'Salford' Study

CD 11.3 The DTI Low Frequency Noise Study

CD 11.4 Den Brook 2 APP/Q1153/A/06/2017162

CD 11.5 Woolley Hill APP/H0520/A/11/2158702

CD 11.6 Batsworthy Cross APP/X1118/A/11/2162070 & APP/X1118/A/12/2171005

CD 11.7 Nutsgrove/Wryde Croft APP/J0540/A/08/2083801 & 2090541

CD 11.8 Chiplow/Jacks Lane APP/V2635/A/11/2154590 & 2158966

GENERAL DOCUMENTS

G1	Notes of the Pre-Inquiry Meeting
G2	Powys Wind farms Conjoined Inquiry – Inspector's Report and Recommendations on the Timetable for the Proceedings
G3	Michelmores letter of 10 October 2013
G4	Defence Infrastructure Organisation's letter of 11 October 2013
G5	Met Office letter of 11 October 2013
G6	Welsh Government's Review of Wind Farm Development
G7	RWE npower renewables letter of 28 October 2013
G8a-c	Bundle of documents relating to site visit
G9	CCC e-mail of 17 December 2013

LOCAL PLANNING AUTHORITY'S DOCUMENTS

CCC1	Ms Bolger's Summary Proof of Evidence
CCC2	Ms Bolger's Proof of Evidence
CCC3	Erratum to Ms Bolger's Proof of Evidence
CCC4	Appendix 1 to Ms Bolger's Proof of Evidence
CCC5	Appendices 2-6 to Ms Bolger's Proof of Evidence
CCC6	Dr Reed's Proof of Evidence
CCC7	Ms Carmichael's Proof of Evidence
CCC8	Appendices to Ms Carmichael's Proof of Evidence
CCC9	Appendix IV to Appendix 9 of Ms Carmichael's Proof of Evidence
CCC10	Ms Carmichael's Rebuttal Proof of Evidence
CCC11	Mr Paterson's Proof of Evidence
CCC12	Errata to Mr Paterson's Proof of Evidence
CCC13	Mr Paterson's Rebuttal Proof of Evidence
CCC14	Mr Trehy's Summary Proof of Evidence
CCC15	Mr Trehy's Proof of Evidence

CCC16	Appendices to Mr Trehy's Summary Proof of Evidence
CCC17	Mr R Jones' Proof of Evidence
CCC18	Appendices to Mr R Jones' Proof of Evidence
CCC19	Mr R Jones' Rebuttal Proof of Evidence
CCC20	Miss Douglass' Opening Statement
CCC21	LANDMAP Cultural Layer CRMRTCL 033 for Carmarthenshire
CCC22	Carmarthenshire SLAs
CCC23	OS Explorer Map 186: Llandeilo & Brechfa Forest
CCC24a-f	Dr Reed's additional ornithology information
CCC25a-d	Google earth images of exchange land
CCC26	Committee Report re. restoration and aftercare at the Brynhenllys opencast coal site
CCC27	Phase 1 Habitat Survey for exchange land
CCC28	1880 OS Maps of exchange land
CCC29	Wet and dry heath locations extracted from B Averis' report and approximate development area and tracks
CCC30	Areas with greater than and less than 50% dwarf shrub heath extracted from B Averis' report and approximate development area and tracks
CCC31	Comparison of application area against whole site extracted from B Averis' report
CCC32	CD of Mr R Jones 3D fly-through visualisations
CCC33	Suggested Habitat Management Plan condition
CCC34	Miss Douglass' Closing Submissions
CCC35	Bundle of documents relating to Council's request that appellants' engage with the graziers
CCC36	Extracts from Gadsden on Commons and Greens

APPELLANTS DOCUMENTS

RES1	Mr Goodrum's Summary Proof of Evidence
RES2	Mr Goodrum's Proof of Evidence
RES3	Appendix 1 to Mr Goodrum's Proof of Evidence
RES4	Appendices 2-5 to Mr Goodrum's Proof of Evidence
RES5	Dr Percival's Summary Proof of Evidence
RES6	Dr Percival's Proof of Evidence
RES7	Appendices to Dr Percival's Proof of Evidence
RES8	Mr Robinson's Summary Proof of Evidence
RES9	Mr Robinson's Proof of Evidence
RES10	Mr Robinson's Rebuttal Proof of Evidence
RES11	Mr Davies' Summary Proof of Evidence
RES12	Mr Davies' Proof of Evidence
RES13	Dr Carter's Summary Proof of Evidence
RES14	Dr Carter's Proof of Evidence
RES15	Appendices to Dr Carter's Proof of Evidence
RES16	Mr Stewart's Proof of Evidence
RES17	Appendices to Mr Stewart's Proof of Evidence
RES18	Dr McKenzie's Summary Rebuttal Proof of Evidence
RES19	Dr McKenzie's Rebuttal Proof of Evidence
RES20	Appendices to Dr McKenzie's Rebuttal Proof of Evidence
RES21	Mr Innes' Opening statement
RES22	Corrected contents list to Volume III of ES
RES23	Designing Wind Farms in Wales
RES24	Dr Percival's correction to last part of 2nd sentence par. 7.6.18 ES Volume II
RES25	Topographic Wetness Index plan
RES26	Tables of permanent and temporary land take

RES27	Breakdown of HMP elements to be funded by Section 106
RES28	Reconciliation of figures on SSA Delivery (agreed between Mr Stewart and Mr R Jones)
RES29	National Assembly for Wales, Record of Proceedings – Statement on Progress on Implementing 'Energy Wales'
RES30	Welsh Assembly Government's Chief Planner's letter of 28 February 2011 including Annex A Factual and legislative updates to TAN 8
RES31	Suggested noise condition
RES32	Suggested AM condition
RES33	Suggested conditions
RES34	Unsigned unilateral undertaking
RES35a-b	Executed amended unilateral undertaking
RES36a-b	Written submission re. notification of agricultural tenant and appendices
RES37	Mr Innes Closing Submissions
RES38	Common Land legal submissions
RES39	SEI Supplementary Non-Technical Summary February 2013

SAVE MYNYDD LLANLLWNI GROUP'S DOCUMENTS

SMLlG1	Mr Ablett's Evidence (Part 1: Landscape)
SMLlG2	Mr Ablett's Evidence (Part 2: Visual Appraisal)
SMLlG3	Mr Keenlyside's Statement
SMLlG4	Mr Wilson's Statement
SMLlG5	Mr J Jones' Statement
SMLlG6	Miss Ellis' Opening Statement
SMLlG7	Examples of works by local artists
SMLlG8	Photographs of the local hunt on the mountain
SMLlG9	Vestas Wind Systems V90 Mechanical Operating and Maintenance Manual

SMLlG10	Mr Sharps report on Recommended noise conditions
SMLlG11	Mr Sharps Inquiry Note on Recommended noise conditions
SMLlG12	Explanatory Memorandum to the Deregistration and Exchange of Common Land and Greens (Procedure) (Wales), the Commons (Deregistration and Exchange Orders) (Interim Arrangements) (Wales), and the Works on Common Land, etc (Procedure) (Wales) Regulations 2012
SMLlG13	Explanatory Memorandum to the Deregistration and Exchange of Common Land and Greens (Procedure) (England) Regulations 2007
SMLlG14	Miss Ellis' Closing Statement
SMLlG15	East Northamptonshire District Council, English Heritage and National Trust v. Secretary of State for Communities and Local Government and Barnwell Manor Wind Energy Limited [2013] EWHC 473 (Admin)

INTERESTED PARTY DOCUMENTS

TJ1	Mr Joynson's statement
LDE1	Cllr Davies Evans statement
LDE2	Translation of Cllr Davies Evans statement
DT1	Llanllwni Community Council statement
DT2	Translation of Llanllwni Community Council statement
GBG1a-b	Grŵp Blaengwen's letter of 21 May 2013 with enclosure
GBG2	Grŵp Blaengwen's submission of 13 September 2013
GBG3	Ms Dugdale's statement
GBG4	Welsh Government's letter of 28 October 2013 to Ms Dugdale
GBG5	Mr Stigwood's Proof of Evidence
GBG6a-g	Bundle of background papers submitted by Mr Stigwood
GBG7	Mr E Marynicz Evidence on behalf of Grŵp Blaengwen
EM1	Mr E Marynicz Evidence

TA1	Ms Chesshire's statement
GA1	Folder of documents submitted by the Graziers Association
EAG1a-b	Brechfa Forest Energy Action Group Supplementary Evidence and Appendices
TCA1a-b	Ms Gardiner's submission of 15 October 2013 with enclosures
TCA2	Ms Gardiner's statement
VK1a-k	Mrs Kincaid's statement and enclosures
EJR1a-c	Mr Razzell's statement in 3 parts
KH1a-i	Ms Hamza's statement and enclosures
BE1	Miss B Edwards' statement
WE1	Mr W Edwards' statement
MF1	Ms Fearn's statement
JSF1	Directive 2002/49/EC submitted by Mr Shepherd Foster
JSF2	RWE npower renewables' response to National Assembly for Wales Petitions Committee submitted by Mr Shepherd Foster
JSF3	The New Gwyddgrug Initiative
EG1	Mr Griffiths' statement
EG2a-b	Further information submitted by Mr Griffiths after he had appeared at the Inquiry
GJ1	Letter and enclosures from Mrs G Jones re. notification
GJ2	Further letter from Mrs G Jones & Mrs M B Williams

ANNEX – RECOMMENDED CONDITIONS

Time Limits and Site Restoration

[No.1] Subject: Permission Period

Condition: The development hereby permitted shall be commenced within 6 years of the date of consent.

Reason: To allow for off-site works to be completed prior to commencement of the wind farm proposal. Such works include the reinforcement of the transmission grid system as recognised in *paragraph 2.13 of Annex C of TAN8*. The six year consent period will allow for further commitments to be made to ensure grid reinforcement is constructed in a timely manner.

[No.2] Subject: Approved Plans

Condition: The development shall be carried out in accordance with the following approved plans:

Drawing	ES Figure Number	RES Internal Ref
Planning Application Red Line Boundary with Site Approach	N/A	01561D2231-06
Turbine Layout	Figure 4.1	01561D0001-19
Micro sighting restriction	Figure 4.2	01561D2226-02
Infrastructure Layout	Figure 4.3	01561D1002-08
Control Building & Substation Layout (indicative)	Figure 4.7	01561D2306-01
Control Building and Substation Elevations (indicative)	Figure 4.8	01561D2307-01
Met Masts	Figure 4.11	01561D5003-01

Reason: To ensure that the development is constructed in accordance with the approved plans.

[No.3] Subject: Project Lifetime

Condition: Other than in respect of the temporary construction compound, the permission hereby granted is for the proposed development to be retained for a period of not more than 25 years from the date that electricity from the development is first supplied to

the grid, this date is to be notified in writing to the Local Planning Authority within 28 days of the electricity first being supplied by the development to the grid.

Reason: To limit the lifetime of the development as proposed.

[No.4] Subject: Decommissioning and Site Restoration

Condition: At the end of the 25 year period, the turbines shall be decommissioned and all related above ground structures shall be removed from the site. Twelve months before the decommissioning of the turbines, a scheme for the restoration of the site shall be submitted to the Local Planning Authority for approval in writing. The scheme shall make provision for the removal of the wind turbine base to a depth of up to 1 metre below ground level and, unless otherwise agreed in writing by the local planning authority, the removal and reinstatement of access tracks and track side drainage ditches. Decommissioning and site restoration shall be completed in accordance with the approved decommissioning and site restoration scheme within the period set out in the approved scheme.

Reason: To protect the local environment beyond the lifetime of the permission.

[No.5] Subject: Removal of Inoperative Turbines

Condition: If any wind turbine hereby permitted fails to produce electricity for supply to the electricity grid for a continuous period of 9 months unless otherwise agreed in writing with the Local Planning Authority, the wind turbine and its associated ancillary equipment shall be removed from the site and restored to a depth of up to 1 metre below ground and the land shall be reinstated within a period of 6 months from the end of that 9 month period, or such other period agreed with the Local Planning Authority, in accordance with a scheme submitted to and approved by the Local Planning Authority prior to the First Export date. Such scheme to include management and timing of the works required under this condition and a traffic management plan and shall be implemented as approved. The wind farm operator shall provide proof of operation for individual turbines at the request of the local planning authority.

Reason: To ensure that any redundant turbines are removed promptly.

Construction Management

[No.6] Subject: Construction Method Statement

Condition: No development shall commence until a construction method statement has been submitted to and approved in writing by the local planning authority. The construction method statement shall be adhered to throughout the construction and post-construction restoration period, subject to any variations approved in writing by the Local Planning Authority. The construction method statement shall include details of:

a) The timing of construction works, including the timing of vegetation removal to avoid the potential for effects on reptiles and nesting birds.

b) The mitigation measures to be implemented to avoid harm to protected species and minimise damage to Local Biodiversity Action Plan habitats.

c) The timing of works and methods of working for cable trenches, foundation works and erection of the wind turbines;

d) The timing of works and construction of substation/control buildings and anemometry mast;

e) The cleaning of site accesses, site tracks and the adjacent public highway and the sheeting of all heavy goods vehicles taking spoil or construction materials to/from the site to prevent spillage or deposit of any materials on the highway;

f) The wheel washing facilities, including siting;

g) The pollution control and prevention measures to be implemented including:

   (i) Sediment control,

   (ii) The bunding of fuel, oil and chemical storage areas,

   (iii) Sewage disposal,

   (iv) Measures for the protection of water courses and ground water and soils and,

   (v) A programme for monitoring water bodies before and during the authorised project, including details of the action to be taken of monitoring indicates adverse effects on water bodies

h) The disposal of surplus materials;

i) The management of construction noise (including identification of access routes, locations of material lay down areas, details of equipment to be employed, operations to be carried out, mitigation measures and a scheme for the monitoring of noise);

j) The handling, storage and re-use on site of soil and turves;

k) The design, materials and construction methods of site access tracks including drainage provisions, and the pollution measures to be implemented to ensure there are no pollution discharges from tracks and disturbed areas including provision to ensure that no polluting discharge from the access tracks and disturbed areas enters any watercourse;

l) The landscaping and reinstatement of vegetation removed along the northern access route to be accompanied by detailed cross sections of existing and proposed hedge banks;

m) The nature, type and quantity of materials to be imported on site for backfilling operations or construction of access tracks;

n) The management of ground and surface water (including mitigation to protect private water supplies);

o) The management of dust;

p) The proposed temporary site compounds for storage materials, machinery and parking within the sites clear of the highway, including the siting of the temporary buildings and all means of enclosure, oil/fuel and chemical storage and any proposals for temporary lighting, and details of proposals for restoration of the sites of the temporary compounds and works within 12 months of the first export date;

q) The design and construction of any culverts (if any);

r) The borrow pit location and method of working including means of extraction, handling, storage and re-use of soil, drainage control and restoration;

s) The restoration of the site which will be temporarily used for construction;

t) Before any wind turbine is removed or replaced a revised construction method statement, dealing with that removal or replacement, shall be submitted to and approved by the local planning authority;

u) Site illumination during construction period.

v) The hours of work during the construction phase of the authorised development and any traffic movements into and out of the site associated with the construction or maintenance of the authorised development shall be 0700 to 1900 hours on Mondays to Fridays and 0700 to 1300 hours on Saturdays other than as allowed for under Condition 6 (w). No work shall take place outside these hours, or on public holidays, unless otherwise agreed by the local planning authority or in the event of an emergency.

w) Notwithstanding the provisions of Condition 6 (v), delivery of turbine and crane components may take place outside the times specified subject to such deliveries first being approved by the Local Planning Authority a minimum of 5 working days prior to the date of delivery.

Reason: To ensure that construction is carried out in an appropriate manner

[No.7] Subject: Construction Traffic Management Plan

Condition: No development shall commence until a construction traffic management plan (CTMP) has been submitted to and approved by the Local Planning Authority. The approved CTMP shall be adhered to. The CTMP shall detail the proposals for the movement of construction traffic and Abnormal Indivisible Loads (AIL) associated with the wind farm development and shall include the following:

(a) Construction vehicle routing plans at 1:2,500 scale for all traffic including AIL showing swept path analysis from the point of entry onto the highway network to the site and in reverse for decommissioning, highway mitigation required and land ownership boundaries including identified holding areas, passing areas and layover areas. Any highway mitigation shall include supporting HD19/03 Safety Audit documentation.

(b) Any necessary agreements have been entered into for works required for highway widening and holding areas/passing bays.

(c) Site access highway design plans at 1:2,500 scale that shall include supporting HD19/03 Safety Audit documentation.

(d) Detailed schedules of the management of junctions to and crossings of the public highway and other public rights of way during the delivery of AIL, construction materials and other operating equipment.

(e) The provision of delivery schedules detailing the time and date of movements, nature of delivery vehicles; particularly of AIL detailing vehicle parameters, gross vehicle weight, number of vehicles in convoy size, dimensions (width, length, height) and weight (total vehicle with load and axle loading).

(f) Details of AIL escorts highlighting where and when along the route private vehicles, banks man and Police vehicle escorts will be used.

(g) Provision of plan drawings and associated traffic signs schedule highlighting locations along the route where temporary traffic management (cones, temporary signs etc) needs to be deployed.

(h) An agreed impact assessment of AIL on all highway structures on the affected route, including bridges, culverts, retaining walls, embankments, drainage features, and third party buildings and structures shall be included in the CTMP.

(i) The making good of any incidental damage done by construction traffic associated with the proposed development to the trunk road and county road network including street furniture, structures, drainage features, highway verges and carriageway surfaces.

(j) Documented trial runs with supporting videoed evidence shall be included in the CTMP demonstrating the suitability of the entire transport route from point of entry on to the highway network to the site for all AIL and in reverse for the decommissioning of the wind farm.

(k) A scheme for the protection of public rights of way during the construction period within the site including safety signage.

The development shall be carried out in accordance with the approved CTMP.

Reason: In the interests of highway safety and minimising disruption

[No. 8] Subject: Surface water drainage

Condition: No development shall commence until details of the surface water drainage system (including means of pollution control) have been submitted to and approved by the Local Planning Authority. The surface water drainage system shall be constructed in accordance with the approved details.

Reason: To prevent flooding and pollution

[No. 9] Subject: Community liaison

Condition: No authorised development shall commence until a community liaison scheme has been submitted to and approved by the Local Planning Authority. The approved scheme shall be adhered to. The scheme shall include:

a) details of how the undertaker will liaise with the local community to ensure residents are informed of how the construction, operation and decommissioning of the authorised development will be implemented and have progressed.

b) a mechanism for dealing with complaints from the local community during the construction, operation and decommissioning of the development; and

c) a nominated representative of the undertaker who will have the lead role in liaising with the local residents and the relevant planning authority.

d) details of how the local community will be given advance notice of AIL movements.

Reason: To minimise disruption to the local community

Wind Farm Infrastructure

[No.10] Subject: Turbine Colour

Condition: Prior to commencement of development, details of the wind turbine external finish and colour shall be submitted to and approved in writing by the Local Planning Authority. Only wind turbines with the approved finish and colour shall be installed upon the development site.

Reason: To protect the visual amenity of the area.

[No.11] Subject: Turbine Dimensions & Infrastructure Micrositing

Condition: The overall height of the wind turbines shall not exceed 127m to the tip of the blades and the hub height shall not exceed 80m. The wind turbines and their associated infrastructure including access tracks and crane hard standings shall be situated within 50 metres of the positions shown on Figure 4.1 and Figure 4.3 of the Environmental Statement. Micrositing restriction on the turbines will follow Figure 4.2 of the Environmental Statement. Temporary Masts may be moved up to a maximum of 100m. Turbines will not be micro-sited closer to residential dwellings.

Reason: To ensure the environment on the site is protected.

[No.12] Subject: Turbine Signage

Condition: Notwithstanding any design or colour approved by the Local Planning Authority pursuant to Condition 10 all wind turbines shall be of a three bladed configuration, shall be of a semi-matt finish and shall not display any name, sign, symbol or logo on any external surfaces other than those reasonably required to meet statutory health and safety requirements.

Reason: To protect the visual amenity of the area.

[No. 13] Subject: Turbine Rotation

Condition: All wind turbines' blades shall rotate in the same direction

Reason: To protect the visual amenity of the area.

[No.14] Subject: Substation

Condition: Prior to the commencement of the development details of the external treatment and orientation of the proposed substation, control of internal and external lighting and landscaping shall be submitted to the Local Planning Authority and approved in writing. The compound and substation shall only be constructed in accordance with Figure 4.7 and 4.8 of the Environmental Statement unless otherwise agreed in writing with the Local Planning Authority.

Reason: To protect the visual amenity of the area.

Ecology and Nature Conservation

[No.15] Subject: Habitat Management Plan

Condition: No development shall commence until a habitat management plan (HMP) has been submitted to and approved in writing by the local planning authority. The submitted plan shall be informed by a study of the common and land swap areas in relation to soil (as detailed in Section 3 of Appendix C of Volume II of the Supplementary Environmental Information) and vegetation structure which shall be submitted with it. The HMP shall be implemented as approved. The HMP shall include two phases, A and B.

Phase A measures shall include the elements of the HMP which shall be provided as part of the construction of the development to include:

a) The creation of four heathland reinstatement research plots, 5.58ha in total, with the aim of determining success rates of reinstatement methods the results of which, can then be utilised in Carmarthenshire and Wales which shall include details for:

   i) Heath turf translocation,

   ii) Heath soils and brash translocation,

   iii) Heath brash spreading on felled conifer plantation,

   iv) Heath brash spreading on ploughed and sulphur treated soils,

b) Heath translocation and reinstatement around wind farm infrastructure including track edges and northern and southern access roads and any other areas within the footprint of the development as part of the construction process. This will be a phased process focussed around the Construction Method Statement;

c) Creation of invertebrate rich habitats around Bryn Llywelyn Farm;

d) The creation of wader scrapes and wet grassland habitats and details of how they will be managed and monitored;

e) Provide details for the creation of spring sown winter stubbles;

f) Provide details for the creation of invertebrate rich habitats including a baseline study of the existing baseline population;

g) Provision of Barn owl boxes;

h) Provision of Bat boxes;

i) Pre-construction survey work for protected species (as appropriate) including details of mitigation and monitoring of birds and protected species (as set out in Appendix C of Volume II of the Supplementary Environmental Information) and if, following consideration of the monitoring results the local planning authority reasonably believes it to be necessary to do so, mitigate the impact of the development on the species identified.

j) Establish the post of Habitat Management Officer to manage and monitor the requirements of the HMP;

k) Deal with any other matters set out in Appendix C of Volume II of the Supplementary Environmental Information (February, 2012) of the Environmental Statement.

Phase B measures shall include the elements of the HMP which shall be provided as part of the on-going operation of the proposed development which may include:

a) Implementation of heath management on the common land (CL1, CL3, and Part of CL4) within the application site which may include:

   a. heath harvesting

   b. a cutting/burning programme (more likely to be cutting) that is undertaken on a rotational basis of 12-15 years to create a mosaic of heathland habitats with a greater degree of structure, which would be suitable for species such as golden plover and curlew

   c. monitoring of the new heathland habitats (following translocation, reinstatement, and creation)

   d. communication with Graziers Association/active graziers

   e. reporting to the Habitat Management Committee

   f. machinery hire and other expenses.

b) Monitoring of habitat creation on private land and areas of new common land

c) Monitoring and management of the newly created wader scrapes, grassland habitats, winter stubbles, invertebrate habitats, and hedgerows

d) Monitoring and management of spring sown winter stubbles;

e) Monitoring and management of species rich grassland creation within the land swap areas;

f) Monitoring and management of the reinstatement of temporary disturbed areas referred to at table 4.2 of the Environmental Statement Vol 2;

g) Predator Control on the common land (CL1, CL3, and Part of CL4) which may include measures for control of foxes, crows, weasels and stoats;

h) Removal of carrion on the common land (CL1, Cl3, and Part of CL4) including measures for the removal of dead sheep and other carrion from within the turbine envelope and a minimum 100m buffer to reduce the risk of collision for carrion-feeding raptors, particularly red kite;

i) Appropriate monitoring programme to be agreed with the Habitat Management Committee;

j) The HMP shall identify the resources needed to carry out each of the relevant activities as set out in Appendix C of Volume II of the Supplementary Environmental Information (February 2012). These figures shall be presented in a programmed schedule of works accompanied by details of expected annual expenditure.

Reason: To minimise negative effects and promote positive effects of the development on nature conservation interests.

[No.16] Subject: Ecological Clerk of Works

Condition: An appropriately qualified Ecologist to perform the role of an Ecological Clerk of Works (ECoW) who will have the power to cease construction activities in areas where compliance with legislation or best practice is not being adhered to shall be appointed at least three months prior to the commencement of development. The identity of the ECoW and the terms of appointment should be approved by the Local Planning Authority prior to appointment. The ecological clerk of works shall be retained throughout the duration of the construction works on site to advise on minimising ecological effects of the construction and to ensure the scheme is carried out in accordance with the CEMP and HMP.

Reason: To ensure the ecological practices and methods carried out as part of the development are implemented correctly and in agreement with all statutory bodies.

Archaeology

[No.17] Subject: Archaeological Works

Condition: No development shall take place on the development site until a written scheme of archaeological investigation has been submitted by the applicant and approved in writing by the Local Planning Authority. The scheme shall include timetabled provision for a nominated archaeologist to be given access to undertake a "watching brief" during the construction phase. The scheme shall include provision for remains to be recorded, removed or left in situ and shall be implemented as approved. Details of protective fencing along the edge of the access tracks adjacent to the known archaeological remains Crug y Biswal [CM 075] and Crug y Giar [CM 164] shall also be provided and implemented in accordance with the approved details

Reason: To protect archaeological interests on the site.

Noise

[No.18] Subject: Noise

Condition: The rating level of noise emissions from the combined effects of the wind turbines (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:

a) The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.

b) No electricity shall be exported until the wind farm operator has submitted to the Local Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.

c) Within 21 days from receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise emissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

d) The assessment of the rating level of noise emissions shall be undertaken in accordance with an assessment protocol that shall, prior to the commencement of any measurements, have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken and also the range of

meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise emissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits.

e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the noise limits shall be taken from the geographically nearest property which is listed in the attached tables. The wind farm operator shall submit to the Local Planning Authority for written approval the proposed noise limits accordingly selected from those listed in the tables to be adopted at the complainant's dwelling for compliance checking purposes. The rating level of noise emissions resulting from the combined effects of the wind turbines when determined in accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant's dwelling.

f) The wind farm operator shall provide to the Local Planning Authority the independent consultant's assessment of the rating level of noise emissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the Local Planning Authority. Unless otherwise agreed in writing by the Local Planning Authority, the assessment shall be accompanied by all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes with the exception of audio data which shall be supplied in the format in which it is recorded. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultant's assessment of the rating level of noise emissions.

g) Where a further assessment of the rating level of noise emissions from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultant's assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the Local Planning Authority.

Table 1 – Between 07:00 and 23:00 – Noise limits expressed in dB L_{A90}, 10 minute

Location	Standardised 10 metre-height Wind Speed (m/s)											
	1	2	3	4	5	6	7	8	9	10	11	12
Gwenogle-bach	35.0	35.0	35.0	35.0	35.0	35.0	35.0	38.4	41.7	44.4	46.2	46.7
Ty'rcae	35.0	35.0	35.0	35.0	35.0	35.0	35.0	38.4	41.7	44.4	46.2	46.7

Location	Standardised 10 metre-height Wind Speed (m/s)											
	1	2	3	4	5	6	7	8	9	10	11	12
Abernennog	35.0	35.0	35.0	35.0	35.0	35.0	35.0	38.4	41.7	44.4	46.2	46.7
Troed-y-rhiw	35.0	35.0	35.0	35.0	35.0	35.0	35.0	38.4	41.7	44.4	46.2	46.7
The Mill	35.0	35.0	35.0	35.0	35.0	35.0	35.0	38.4	41.7	44.4	46.2	46.7
Rhoswen	35.0	35.0	35.0	36.4	38.6	40.9	43.4	46.1	49.0	52.1	55.6	59.3
Pentaflod	35.0	35.0	35.0	36.4	38.6	40.9	43.4	46.1	49.0	52.1	55.6	59.3
Blotweth	35.0	35.0	35.0	36.4	38.6	40.9	43.4	46.1	49.0	52.1	55.6	59.3
Penygarreg	35.0	35.0	35.0	35.0	35.0	35.0	37.7	41.4	44.7	47.4	49.2	49.7
Tirlan	35.0	35.0	35.0	35.0	35.0	35.0	37.7	39.9	43.4	46.4	48.2	48.6
Hafod	35.0	35.0	35.0	35.0	35.0	35.0	37.7	39.0	42.5	45.7	47.5	48.0
Salach	36.0	36.0	36.0	36.0	36.0	36.0	36.4	40.0	45.1	50.3	50.4	50.4
Ffynnon-Las	35.0	35.0	35.0	35.0	35.0	37.8	38.2	42.0	47.0	51.9	52.0	52.0
Bryngolau	33.1	33.1	33.1	33.1	33.1	33.1	33.5	37.0	40.1	42.7	42.7	42.7
Blaen-nant-gwyn	36.8	36.8	37.1	37.9	38.7	39.7	41.9	44.6	48.0	51.1	51.1	51.1
Aeronfa	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Gwar-Glwydeth	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Clyniau	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Bwlch-clawdd	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Ty Newydd	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Pantysgawen	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Clyn-melyn	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Mountain Gate	35.0	35.0	35.0	35.6	37.8	40.1	42.6	45.4	48.7	52.6	57.2	62.6
Blaencwmiar	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Blaencaerneuadd	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Caer-neuadd	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Llainlas	35.0	35.0	35.0	35.0	35.0	35.0	36.6	38.5	40.5	42.4	44.4	46.4
Pant Gwyn	35.0	35.0	35.0	35.0	35.6	37.9	40.4	43.1	46.0	49.1	52.6	56.3

Location	Standardised 10 metre-height Wind Speed (m/s)											
	1	2	3	4	5	6	7	8	9	10	11	12
Blaencwm	35.0	35.0	35.0	35.0	35.6	37.9	40.4	43.1	46.0	49.1	52.6	56.3
Pant-troed-is	35.0	35.0	35.0	35.0	35.6	37.9	40.4	43.1	46.0	49.1	52.6	56.3
Nant-y-feinan	35.0	35.0	35.0	36.4	38.6	40.9	43.4	46.1	49.0	52.1	55.6	59.3
Cwmiar	35.0	35.0	35.0	35.0	35.7	37.6	39.6	41.5	43.5	45.4	47.4	49.4
Penrhiwdilfa	35.0	35.0	35.0	36.4	38.6	40.9	43.4	46.1	49.0	52.1	55.6	59.3

Table 2 – Between 23:00 and 07:00 – Noise limits expressed in dB L_{A90}, 10-minute

Location	Standardised 10 metre-height Wind Speed (m/s)											
	1	2	3	4	5	6	7	8	9	10	11	12
Gwenogle-bach	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	39.6	43.0	46.3	49.4
Ty'rcae	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	39.6	43.0	46.3	49.4
Abernennog	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	39.6	43.0	46.3	49.4
Troed-y-rhiw	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	39.6	43.0	46.3	49.4
The Mill	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	39.6	43.0	46.3	49.4
Rhoswen	38.0	38.0	38.0	38.0	38.2	40.2	42.3	44.7	47.4	50.5	54.1	58.3
Pentaflod	38.0	38.0	38.0	38.0	38.2	40.2	42.3	44.7	47.4	50.5	54.1	58.3
Blotweth	38.0	38.0	38.0	38.0	38.2	40.2	42.3	44.7	47.4	50.5	54.1	58.3
Penygarreg	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	42.6	46.0	49.3	52.4
Tirlan	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.6	44.9	48.3	51.3
Hafod	38.0	38.0	38.0	38.0	38.0	38.0	38.0	39.1	40.8	44.3	47.6	50.7
Salach	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.5	44.4	51.4	51.5	51.5
Ffynnon-Las	38.0	38.0	38.0	38.0	38.0	38.0	38.0	40.5	46.3	53.0	53.1	53.1
Bryngolau	36.1	36.1	36.1	36.1	36.1	36.1	36.1	35.7	37.0	39.7	39.8	39.8
Blaen-nant-gwyn	38.0	38.0	38.0	38.0	38.0	39.2	41.6	43.8	48.4	51.5	51.5	51.5
Aeronfa	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Gwar-Glwydeth	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Clyniau	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7

Location	Standardised 10 metre-height Wind Speed (m/s)											
	1	2	3	4	5	6	7	8	9	10	11	12
Bwlch-clawdd	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Ty Newydd	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Pantysgawen	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Clyn-melyn	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Mountain Gate	38.0	38.0	38.0	38.0	38.0	39.4	41.5	43.9	46.9	50.5	55.2	61.2
Blaencwmiar	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Blaencaerneuadd	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Caer-neuadd	37.0	37.0	37.0	37.0	37.0	37.0	37.0	38.1	40.0	41.8	43.4	44.7
Llainlas	37.0	37.0	37.0	37.0	37.0	37.0	37.0	38.1	40.0	41.8	43.4	44.7
Pant Gwyn	37.0	37.0	37.0	37.0	37.0	37.2	39.3	41.7	44.4	47.5	51.1	55.3
Blaencwm	37.0	37.0	37.0	37.0	37.0	37.2	39.3	41.7	44.4	47.5	51.1	55.3
Pant-troed-is	37.0	37.0	37.0	37.0	37.0	37.2	39.3	41.7	44.4	47.5	51.1	55.3
Nant-y-feinan	38.0	38.0	38.0	38.0	38.2	40.2	42.3	44.7	47.4	50.5	54.1	58.3
Cwmiar	38.0	38.0	38.0	38.0	38.0	38.0	39.1	41.1	43.0	44.8	46.4	47.7
Penrhiwdilfa	38.0	38.0	38.0	38.0	38.2	40.2	42.3	44.7	47.4	50.5	54.1	58.3

Table 3: Coordinate locations of the properties listed in Tables 1 and 2.

Property	Easting	Northing
Gwenogle-bach	252894	234484
Ty'rcae	252914	234490
Abernennog	252950	234401
Troed-y-rhiw	252588	234384
The Mill	252910	234289
Rhoswen	252334	237571
Pentaflod	252345	237304
Blotweth	252799	236710
Penygarreg	252631	235800

Property	Easting	Northing
Tirlan	251595	234770
Hafod	251458	234575
Salach	250619	234436
Ffynnon-Las	250650	234677
Bryngolau	248699	235178
Blaen-nant-gwyn	249218	235755
Aeronfa	248977	237241
Gwar-Glwydeth	248897	236970
Clyniau	249394	236509
Bwlch-clawdd	248785	237394
Ty Newydd	249395	238101
Pantysgawen	249654	238668
Clyn-melyn	249820	238769
Mountain Gate	250230	239099
Blaencwmiar	250957	239590
Blaencaerneuadd	251421	239760
Caer-neuadd	251550	239973
Llainlas	252529	240515
Pant Gwyn	254031	238633
Blaencwm	254042	238516
Pant-troed-is	253501	238110
Nant-y-feinan	252272	238029
Cwmiar	250679	239664
Penrhiwdilfa	252393	237261

Note to Table 3: The geographical coordinate references are provided for the purpose of identifying the general location of dwellings to which a given set of noise limits applies.

Note: For the purposes of this condition, a "dwelling" is a building within Use Class C3 & C4 of the Town and Country Planning (Use Classes) Order 1987 which lawfully exists or had planning permission at the date of this consent.

Reason: To ensure a satisfactory development and to safeguard residential amenity.

[No.19] Subject: Amplitude Modulation

Condition: On the written request of the local planning authority, following a complaint to it considered by the local planning authority to relate to regular fluctuation in the turbine noise level (amplitude modulation), the wind farm operator shall at its expense employ an independent consultant approved in writing by the local planning authority to undertake the additional assessment outlined on Guidance Note 5 ascertain whether amplitude modulation is a contributor to the noise complaint as defined in Guidance Note 5. If the said assessment confirms amplitude modulation to be a contributor as defined in Guidance Note 5, the local planning authority shall request that within 28 days of the completion of the noise recordings referred to in Guidance Note 5, the developer shall submit a scheme to mitigate such effect. Following the written approval of the scheme and the timescale for its implementation by the local planning authority the scheme shall be activated forthwith and thereafter retained.

Reason: To ensure a satisfactory development and to safeguard residential amenity.

Guidance Notes for Noise and Amplitude Modulation Conditions

These notes are to be read with and form part of the conditions. They further explain the conditions and specify the methods to be employed in the assessment of complaints about noise emissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farms" (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

Guidance Note 1

(a) Values of the $L_{A90,10\ minute}$ noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

(b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

(c) The $L_{A90,10\ minute}$ measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

(d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine, and at any on site meteorological mast(s), if available, together with the arithmetic mean power generated by each turbine, all in successive 10-minute periods. All 10 minute arithmetic average mean wind speed data measured at hub height shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10 metre height wind speed data, as determined from whichever source is agreed in writing with the Local Planning Authority as being most appropriate to the noise compliance measurements being undertaken, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10- minute increments thereafter.

(e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

(f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise emissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

Guidance Note 2

(a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b)

(b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1.

(c) For those data points considered valid in accordance with Guidance Note 2(b), values of the $L_{A90,10\ minute}$ noise measurements and corresponding values of the 10- minute standardised ten metre height wind speed, as derived from the source(s) agreed in writing with the Local Planning Authority in accordance with Guidance Noise 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

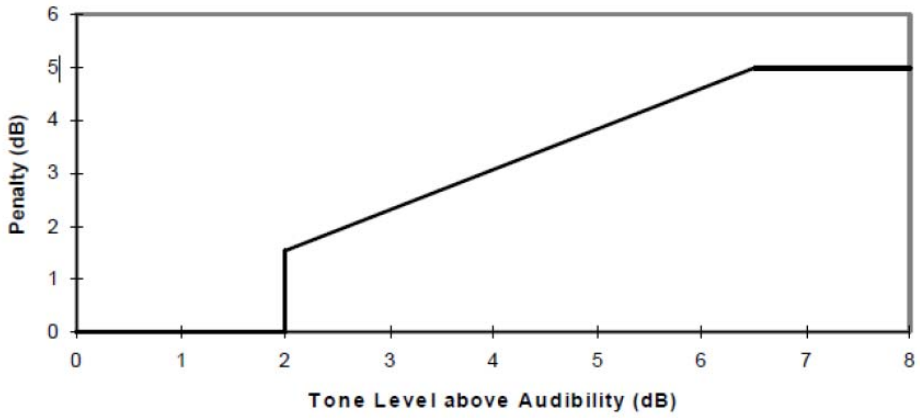
(a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise emissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

(b) For each 10 minute interval for which $L_{A90,10\ minute}$ data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise emissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

(c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104-109 of ETSU-R-97.

(d) The average tone level above audibility shall be calculated for each wind speed bin, each bin being 1 metre per second wide and centred on integer wind speeds. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be substituted.

(e) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



Guidance Note 4

(a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

(b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

(c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise emission only.

(d) The wind farm operator shall ensure that all necessary wind turbines in the development are turned off for such period as the independent consultant requires to undertake any further noise measurements required under Guidance Note 4(c).

(e) To this end, the steps in Guidance Note 2 shall be repeated with the required number of turbines shut-down in accordance with Guidance Noise 4(d) in order to determine the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

(f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log\left[10^{L_2/10} - 10^{L_3/10}\right]$$

(g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.

(h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with Guidance Note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.

Guidance Note 5

Amplitude modulation is the regular variation of the broadband aerodynamic noise caused by the passage of the blades through the air at the rate at which the blades pass the turbine tower. ETSU-R-97 "The Assessment and Rating of Noise from Wind Turbines" assumes that a certain level of amplitude modulation is intrinsic to the noise emitted by the wind turbine and may cause regular peak to trough variation in the noise of around 3 dB and up to 6 dB in some circumstances. The noise assessment and rating framework recommended in ETSUR-97 fully takes into account the presence of this intrinsic level of amplitude modulation when setting acceptable noise limits for wind farms.

Where the local planning authority considers the level of amplitude modulation to be at a level exceeding that envisaged by ETSU-R-97, it may require the operator to appoint an approved independent consultant to carry out an assessment of this feature. In such circumstances, the complainant(s) shall be provided with a switchable noise recording system by the independent consultant and shall initiate recordings of turbine noise at times and locations when significant amplitude modulation is considered to occur. Such recording shall allow for analysis of the noise in one-third octave bands from 50 Hz to 10 kHz at intervals of 125 milliseconds. The effects of amplitude modulation are normally associated with impacts experienced inside properties or at locations close to a property, such as a patio or courtyard areas.

For this reason the assessment of the effect necessarily differs from the free-field assessment methodologies applied elsewhere in these Guidance Notes. If, over a period of 6 months, commencing at a time of the first occasion at which the local planning authority records an amplitude modulation event, the complainant fails to record 5 occurrences of significant amplitude modulation, in separate 24 hour periods, then its existence as a contributor to the noise complaint shall be excluded. If, however, the independent consultant, on analysis of the noise recordings, identifies that amplitude modulation is a significant contributor to the noise complaint then the local planning authority shall be informed in writing.

Air Safeguarding

[No.20] Subject: Aviation Safeguarding

Condition: The developer shall provide one month's prior written notice to the local planning authority, Ministry of Defence, Civil Aviation Authority, and National Air Traffic Service of the anticipated date of erection of the first wind turbine and prior to that erection, details of the height above ground level of the highest structure in the development; and the position of each wind turbine in terms of latitude and longitude.

Reason: In the interest of air safety, to highlight the physical structures associated with the development and remove the risk of an unknown physical obstruction.

[No.21] Subject: Aviation Lighting

Condition: The Company shall install Ministry of Defence accredited infrared warning lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point. The turbines will be erected with this lighting installed and the lighting will remain operational on each turbine until each turbine is decommissioned.

Reason: In the interest of air safety, to highlight the physical structures associated with the development and remove the risk of an unknown physical obstruction.

Shadow Flicker

[No.22] Subject: Shadow Flicker

Condition: Prior to the construction of the final turbine, a written scheme shall be submitted to and approved in writing by the local planning authority setting out a protocol for the assessment of shadow flicker in the event of any complaint to the local planning authority from the owner or occupier of a dwelling (defined for the purposes of this condition as a building within Use Class C3 of the Use Classes Order) which lawfully exists or had planning permission at the date of this permission. The written scheme shall include remedial measures to alleviate any shadow flicker attributable to the development. Operation of the turbines shall take place in accordance with the approved protocol unless the Local Planning Authority gives its prior written consent to any variations.

Reason: To protect the amenity of residents in the area.

TV Interference

[No. 23] Subject: Television Interference

Condition: No development shall commence until a scheme has been submitted to and approved by the local planning authority providing for the investigation of and remediation, at the wind farm operator's expense, of any interference with television reception at any dwelling which lawfully existed or had planning permission at the date of this Order reported within 24 months of 'first export'. The scheme shall be implemented as approved.

Reason: To protect the amenity of residents in the area.