

From: [REDACTED]
To: [Dobbins, Russell \(ESNR-Planning\); NDF](#)
Subject: CPRW response to dNDF consultation
Date: 18 November 2019 04:45:01
Attachments: [1. CPRW response dNDF PART 1 The response form..pdf](#)
[2. CPRW response dNDF PART 2. without Appendices .pdf](#)
[3. CPRW response dNDF PART 2. APPENDIX 1 Constraints .pdf](#)
[4. CPRW response dNDF PART 2. APPENDIX 2. HRA.pdf](#)
[5. CPRW response dNDF PART 2. APPENDIX 3. Errors,Methology, problems. .pdf](#)

Dear NDF team,

Many thanks to Russell for giving us the weekend to recover from the flood adventures.

I am sending this in behalf of our CPRW Head Office because there is no-one there over the weekend.

Our response is attached in 5 pdfs.

1. PART 1 Response Form (with Part 2 index under Q 15)
2. PART 2 The NDF's Onshore Wind and Solar
3. Appendix 1. Table:Application of Constraints: Arup vs Aecom methodology
4. Appendix 2. Full Response to HRA ASSESSMENT OF dNDF
5. Appendix 3. ERRORS, PROBLEMS & METHODOLOGY in the EVIDENCE for ENERGY POLICY - in draft NDF 2019

We would be most grateful for acknowledgement of receipt.

Kind regards,

Christine

Dr Christine Hugh-Jones

Secretary: Brecon & Radnor Branch
Campaign for the Protection of Rural Wales

[REDACTED]

Consultation Response Form

Your name	Peter Alexander-Fitzgerald
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<u>Organisation (if applicable)</u>	The Campaign for the Protection of Rural Wales (CPRW)

1. NDF Outcomes (chapter 3)

The NDF has **proposed** 11 Outcomes as an ambition of where we want to be in 20 years' time.

- Overall, to what extent do you agree or disagree the 11 Outcomes are a realistic vision for the NDF?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

We do not like option of '**Neither agree nor disagree**' which dictates an overall position, ostensibly lukewarm, to a multifactorial issue. This dumbs-down considered responses to often complex issues. CPRW's position on many questions with internal sub-sets is often better summarised as '**Both agree and disagree**' and yet there is no tick-box to correspond to this position. We are afraid that number-crunching analyses will misrepresent our position.

- To what extent do you agree with the 11 Outcomes as ambitions for the NDF?

Agree with all of them	Agree with most of them	Agree with some of them	Agree with none of them	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Although we trust this is not intentional, read as a set, the wording of the 11 outcomes (dNDF 3 pdf. p18) gives an impression that:

- all Welsh people live in rural areas but work in towns
- Wales has no wild places where no-one lives
- we want a Wales entirely for what we understand, with our imperfect state of environmental knowledge, to be our own needs and not for biodiversity both for its own sake and benefits to ourselves which we do not understand or appreciate.
- we are not thinking of visitors or UK neighbours
- we don't care about global responsibility

There is some mismatch between these headline outcomes and more detailed outcomes as spelt out on p20 which becomes evident when they are combined (see below). Addressing this could correct some of the false impressions above.

- If you disagree with any of the 11 Outcomes, please tell us why:

General Response:

CPRW welcomes the improved structure and more direct style of the 2019 NDF, when compared to its confusing predecessor. In line with the aspirations of Welsh Government policy, the underlying theme is now more people-based and place-defined - but this can leave it unclear as to how resources, mechanisms and the existing agencies fit in to these

new concepts.

We must stress at the outset that we would like to see our comments on the target Outcomes reflected in **Policy Wording** because ultimately it is this which will determine the actual outcomes.

It also does not prevent the NDF from having what we see as an unduly urban-centric approach to rural issues. To many - whether living in towns, in the countryside, or across Offa's Dyke – rural Wales is of key importance to the nation's identity, culture, and economy.

Similarly, we do not accept the exclusion of marine issues from this essentially terrestrial NDF as compared to the explicit references in the 2018 edition.

Many of these issues can be remedied by re-focussing relevant aims and desired outcomes, but the important Assessment of Onshore Wind and Solar Energy potential is in our view a far more problematic matter. In our detailed response to Q7 below we contend that it is incapable of being considered as a Framework document - in part because of the prematurity of its previously unpublished and novel material, which in contrast to the other topics has not been subject to a proper consultation, scoping exercise or environmental impact assessment. CPRW cannot understand why it omits consideration of marine renewable energy resources with the result that fails to be comprehensive. At the same time it presents an artificial and wrong-headed approach of shoe-horning the two identified terrestrial technologies into so-called Priority Areas which are incapable of accommodating them without extreme environmental, landscape and social harm. CPRW concludes that the Assessment is both so misconceived and so error-laden that it is unfit for purpose. We have compiled an additional free-standing critique of its content to support our view and we have already written separately and urgently to relevant Ministers requesting that it be removed from the present NDF until it has been re-scoped, re-written and subjected to further public consultation.

Chapter 3 – NDF Outcomes

Taken as a whole, the 11 one-line summary Outcomes (p18) appear reasonable, and CPRW welcomes the early reference to '*vibrant rural places*' in item 2. However, we do not accept the omission of references to the marine environment, which was an integral part of the 2018 NDF. (see Outcome 9 below)

Further, we fail to see how the NDF embraces the key roles of existing rural agencies, such as NRW and Cadw and how it will achieve harmony with Planning Guidance in the TANs, and with LDPs. See 2018 response)

Taking the more detailed individual descriptions (p20) we would comment as follows:

Outcome 1:and work in connected, inclusive and healthy places

Our cities, towns and villages will be physically and digitally well-connected, offering good quality of life to their residents

We are pleased to see the integrated reference to '*cities, towns and villages*' but the aim is too narrow. Wherever possible, clear spatial distinctions should continue to be secured between them so as to maintain their individual sense of place and rural hinterlands, conserve farmland; and protect landscape integrity. We support suitable settlement hierarchies in Local Plans and encourage the Welsh government to ensure an appropriate degree of conformity between LPAs, reflecting the character and needs of each. "Healthy places" doubtless refers to air-pollution, green spaces etc., but the NDF should consider health services, the strategic need for health services, more accessible primary health care

services, including the full range of preventative care, in rural places and for new developments (see Outcome 2).

Outcome 2: *in vibrant rural places with access to homes, jobs and services*

“In rural areas, job opportunities and community services will be supported to help attract and retain people”

With oblique exceptions in **Outcomes 9 and 10**, this is the chief reference to rural Wales and needs a greater focus upon its countryside as a key and multi-dimensional facet in the life of the whole nation. We have therefore included responses to a wide range of rural-related topics within the NDF.

Rural Society

We are pleased to see the reference to ‘Rural Proofing’ at ISA 1.3.32-33 which recognises the marginality of rural life in relation to generally available services but we are concerned that in practice these may be overlooked or dismissed for consideration in ‘lower tier plans’. A paramount concern is the need to reverse the ageing population in the countryside, in which a key consideration - especially for both ends of the age-group - is the availability of broadband and a good mobile phone network (as indicated in Outcome 8). Education and social services are key issues. More accessible primary health care services, including the full range of preventative care, and transport to and from distant hospitals is essential in rural areas to address urban/rural inequalities.

We note the aim of balancing development with ‘*preserving the character of rural Wales*’. As its title states, CPRW has long ago moved on from the “aspic” concept of our countryside and sees ‘Protection’ as essentially more flexible – both in terms of landscapes, land uses, habitats and the economic and social character of the countryside.

Landscape

We support in principle the aim of strengthening rural communities and their populations, but rural Wales is not uniform. Scale, diversity and location mean that the individual character and needs of such local places require appropriate and varied plans. Rural Wales should be recognised as a multi-functional asset in which its landscape and environment play a crucial part in the economy of the whole country.

Support for Agriculture

CPRW has responded in detail to the concurrent Consultation on **Sustainable Farming & Our Land** (SF&OL) in which we noted the multi-purpose link between a wide range of ‘public goods’ and farming, and the need for a new sustainable and well-targeted farm policy whether post-Brexit, or after non-Brexit. This is critically necessary in upland Wales – both inside and outside designated areas. Once more, we register our disappointment over the failure to integrate Sustainable Farming & Our Land with the NDF.

There is no specific reference to agricultural land quality, defined in the Welsh Government’s Agricultural Land Classification (ACL) as updated, expanded and issued in November 2017. Although the ACL must be used to underpin a strong land use policy to protect Best and Most Versatile (BMV) areas from development pressures, this is not just about farming or the location of RE schemes. The ACL should be a fundamental building block for the NDF to provide guidance on optimal land use across the whole spectrum. The desire to protect “productive land” (NDF p24) is simply not specific enough.

As an example, we note that in the Powys LDP Inquiry (2018) the first opportunity to use the new ALC to inform policy was not taken (in spite of a relevant Chief Planning Officer letter).

In this NDF, the failure to exclude Agricultural Land Classification Grade 3a from the Priority Areas, once more, contravenes the Welsh Government's duty to protect the Best and Most Versatile (BMV) farmland. This is surely an unintended outcome of a methodological error by Arup consultants.

Outcome 3: in distinctive regions that tackle health and socio-economic inequality through sustainable growth

“The regional approach will recognise that different parts of Wales work differently to each other, with distinct underlying characteristics and challenges”

This can only work to the extent that the Regions do have distinct underlying characteristics and challenges and each forms a coherent unit for social and economic interaction. We comment further under Policy 16.

CPRW wishes to flag up the pervasive West-East economic, land use and cultural linkages across the English border. We do not consider that this relationship is fully explored in the relevant parts of the NDF. There should be consideration of cross-border impacts of development in Wales on English designated landscapes, and recognition of the high quality of Welsh landscapes that adjoin the AONBs in England. Development such as grid connections could also impact adversely on designated and locally special landscapes across the Border.

Biodiversity interests, water quality in our rivers and air quality are cross-border issues which cannot be properly and fully addressed on a Welsh-regional basis or a Wales-only basis.

Wales must be an outward-looking nation which works more closely with neighbouring countries for the common good and for the common environment. This is particularly so in the emerging context of Brexit. We are also concerned that the NDF does not mention the very special relationship with the Republic of Ireland.

Outcome 4: in places with a thriving Welsh Language

“We aim to have a million Welsh speakers in Wales by 2050 – an increase of almost 80% on current levels.”

We applaud the ambition of a developing living Welsh Language and the recognition that development will be managed in Welsh-speaking strongholds but this conflicts with the inevitable changes consequent of the designation of 15 large Policy 10 Priority Areas covering some of the most rural Welsh-speaking areas.

Outcome 5: and work in towns and cities which are a focus and springboard for sustainable growth

Cities and large towns are magnets for jobs and investment, while people are drawn to live and work there for the economic and social opportunities they provide.

The impact on areas on the periphery of towns is likely to be mixed, with some benefits from improved connectivity and additional investment but also the risk of urban sprawl and invasion of green spaces and agricultural land

Outcome 6: in places where prosperity, innovation and culture are promoted
Development Plans will have a forward thinking, positive attitude towards enabling economic development, investment and innovation.

A perennial issue for CPRW is the inability of certain LPAs to enforce specific Planning

Conditions on contentious or finely balanced planning consents. The ambition to enable population growth and economic growth whilst reducing pollution and increasing Green Infrastructure is a case in point. Although this may not be a classical Framework issue, they are highly relevant to mitigating the adverse impacts of development and securing positive outcomes. If the public cannot trust planning conditions and 106 agreements to control impacts of consented developments, or to secure environmental or social benefits, this undermines the role of the planning system as the cornerstone of local democracy.

Local democracy is also threatened if the public do not have reasonable access to third party comments on planning applications. A modern and forward looking Wales should encourage transparency and public participation in shaping the places where people live and work by insisting Planning web-sites display the full sum of public comments. This is especially relevant now that paperless procedures are encouraged and car journeys to distant planning departments should be discouraged. (see Outcome 8)

Outcome 7:..... in places where travel is sustainable

All methods of travel will need to have low environmental impact and low emissions, with ultra low emission vehicles and public transport replacing today's petrol and diesel vehicles.

Rural or semi-rural communities are likely to be expanded to provide "dormitory" homes for city commuters. This will risk increased use of private transport with implications for air quality. Reducing the environmental impact of travel is incompatible with significant expansion of rural communities. New developments in villages frequently have accommodation for two cars per house, extra hard-standing and additional parking facilities.

Outcome 8:..... in places with world-class digital infrastructure

Broadband provision will develop and evolve, beginning with comprehensive coverage of superfast and progressing to ultra-fast fibre, which will help businesses to be more productive, resilient and innovative.

We welcome this outcome and encourage Welsh authorities at all levels to live up to this opportunity by **improving their web-sites** and making their policies, strategies and positions on key issues clear to the public. We note that the WG has given no clear signposting to the documents required to properly assess this dNDF and we are still discovering more at the very end of the extended consultation period. (see Outcome 6 above)

Outcome 9:..... in places that sustainably manage their natural resources and reduce pollution

Wales' natural resources, including its minerals, coast, water, forests and landscape and seascape, support a range of activities and sectors and are assets of great value in their own right.

We are pleased to see that the importance of landscape is now articulated in the headlines for Outcome 9, in which we wholehearted echo the concept that landscapes and other attributes of rural Wales are '**assets of great value in their own right**'.

We have underlined this key concept which should permeate the NDF's role in relation to rural land use, spatial policy and Outcomes 2, 10 and 11. Unfortunately we fear that the fine words and laudable sentiments may evaporate when challenged by other Outcomes. For almost a century, CPRW's central concern has been the protection, enhancement and promotion of the country's landscapes - whether recognised as nationally or locally important - and the recognition of the land uses that can - or do - sustain them. The real test of the NDF will come when it has to flesh out Outcome 9 and reconcile it with the

conflicting aims of others.

We give examples below where this Outcome needs to be given more clarity and emphasis.

There is no Policy recognition of the key importance and breadth of vision set out in the European Landscape Convention which provides a comprehensive template for an exercise of this type. Further the dNDF focuses only on nationally designated areas, fails to consider the whole land use spectrum and has no vision to enhance those areas which are not already recognised as of national significance. When PPW11 is drafted, there is an opportunity to widen and clarify this myopic approach. Specifically, the NDF fails to have any wording to give protection to locally important landscapes (such as Special Landscape Areas),

We find it incomprehensible that the Welsh Government can articulate this declared aspect of Outcomes 2 and 9 while pursuing the unwarranted and insensitive and concept of the 15 Priority Areas for onshore wind and solar energy. (See Outcome 11 & Q7, as expanded at Section 15 below).

We are disappointed that the dNDF does not mention of Seascapes, that the strategic framework is not integrated with the marine strategic framework in the WNMP and that marine ecosystems and resources are not mentioned in Outcomes 9 and 10. The NDF should provide a summary of the WNMP and incorporate the key points into the NDF itself. The visual impact of large wind turbine arrays on the iconic Welsh coastline needs more detail.

CPRW's core concerns cover Welsh land, Welsh waters and Welsh coast. Wales is surrounded on three sides by internationally important waters with rich but vulnerable marine habitats. The coastline contributes to Welsh identity, attractiveness and tourist appeal, particularly through initiatives such as The Wales Coast Path and Blue Flag beaches and rich marine habitats are of paramount importance for tourism.

Outcome 10:..... *in places with biodiverse, resilient and connected ecosystems*

The variety of flora and fauna found across Wales make Wales a special place.

We cannot be too emphatic in welcoming the WG undertaking to reverse the decline in biodiversity and to make the planning system ensure that wild life thrives throughout Wales.

If this undertaking is to be fulfilled, radical change in the emphasis on protection and enhancement of biodiversity and habitats at **all levels** in the planning system, including in the over-arching NDF itself is **mandatory**. (See responses to Policies 8 & 10, the HRA, and the ISA.)

Planning protection for biodiversity observes a hierarchical framework in which only the top tier of nationally and internationally designated sites and European Protected Species receive anything like proper attention and even this level of protection is wanting.(see HRA response).

We are facing a catastrophic decline in species and species population numbers. The most critical are the smaller or microscopic biological organisms, generally unknown to the planning regime, underlying our entire range of ecosystem networks and also agricultural productivity. An example of how we are failing in blanket protection of these is the exceedingly permissive response to rising ammonia levels from new intensive livestock farming units. The NRW guidelines only apply to top-tier designations and, in addition, condone high risk impacts to woodlands.

At present the “net enhancement” required by recent the Chief Planning Officer letter 23/10/19 to LPAs is a pipe-dream. The WG needs to make it a realistic possibility by putting locally important habitats and biodiversity at the centre of planning decision making.

The only way we can tackle this emergency through planning is to insist on habitat protection and enhancement, **for every development site**, at all levels of planning, including regional and local levels. This will require WG co-operation in augmenting ecological expertise within the NRW planning team and applying it to guide hard-pressed LPAs in planning decisions and co-operate with them to enforce against breaches.

Outcome 11:..... in places which are decarbonised.

The challenges of climate change demand urgent action on carbon emissions and the planning system must help Wales lead the way in promoting and delivering a competitive, sustainable decarbonised society.

We fully accept the scientific evidence for anthropogenic climate change and the need for renewable energy. We support an energy strategy based on evidence about the susceptibility of our environment to the different range of solutions and we believe that Policy makers, businesses and individuals simply cannot continue with the current rate of consumption and environmental degradation assumed in “business as usual”. It is a misconception that CPRW is “against renewable energy”.

CPRW considers urgent action on carbon emissions should start with basic evidence and research. It is questionable whether this exercise has been carefully undertaken for Wales but, to the extent that it has, there is no evidence that it contributes to dNDF RE Policy. The dNDF Energy Policy 10 (and to a lesser extent 11) apparently derives from a WG percentage **emissions** undertaking and a percentage **renewable electricity** undertaking rather than any over-arching Government energy strategy guided by **evidence**.

Fundamental questions are:

1. How much RE do we already have?

A tally of existing capacity on land **and at sea**, operating, in planning or under construction The life-span of this and potential for repowering where appropriate. Energy imports and exports from neighbouring countries.

2. How much RE will we need for the future extrapolating from the present?

What is the possible rate of change-over from fossil fuels to renewables given the need to change energy-dependent infrastructure and capital goods especially involved heating, transport, industry, construction and agriculture.

3. How much could we save, especially through strategic planning and regulation

Assessment of scenarios for future energy needs should take the potential for energy savings into account.

4. How can we meet the short-fall with new projects

Currently available renewable technologies, technologies in development and storage technology should all be assessed for their capacity, life-span, consumption of scarce resources etc. Storage and intermittent generation must be considered.

5. What are the scenarios for deployment

Taking into account long-term costs and import/export forecasts for electricity

6. What are the impacts of the different technologies and scenarios on the different

aspects of long-term protection of our environment, including human health, general

well-being and prosperity?

7. Once we are better informed, where shall we put what and how shall we incorporate it into National Policy and the dNDF?

CPRW does not pretend all this is simple or even fully possible but the WG must, at least, learn through facing the realities of what Wales needs to provide **and** what its Planning Regime has to protect, for a truly sustainable future.

We believe this issue is so important that we have divided and structured our submission so that the points in our response can be better understood. They are set out under Q15:

2. Spatial Strategy (policies 1 - 4)

The NDF **spatial strategy** is a guiding framework for where large-scale change and nationally important developments will be focused over the next 20 years.

- To what extent do you agree or disagree with the spatial strategy and key principles for development in...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
Urban areas (Policies 1, 2 & 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rural areas (Policy 4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you have any comments on the spatial strategy or key principles for development in urban and rural areas, please tell us:

We do not accept the focus on terrestrial issues to the exclusion of the marine

environment. (see response to Outcomes 2 and 9 above and Q7 below)

3. Affordable Housing (policy 5)

The NDF sets out the approach for providing affordable housing, encouraging local authorities, social landlords, and small and medium-sized construction and building enterprises to build more homes.

- To what extent do you agree or disagree with the approach to increasing affordable housing?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree, in what other ways can the NDF approach the delivery of affordable housing?

4. Mobile Action Zones (policy 6)

- To what extent do you agree or disagree the identification of mobile action zones will be effective in encouraging better mobile coverage?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree, in what other ways can the NDF improve mobile phone coverage in the areas which currently have limited access?

5. Low Emission Vehicles (policy 7)

- To what extent do you agree or disagree that policy 7 will enable and encourage the roll-out of charging infrastructure for ultra-low emission vehicles?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree, in what other ways can the NDF enable and encourage the roll-out of charging infrastructure for ultra-low emission vehicles?

6. Green Infrastructure (policies 8 & 9)

- To what extent do you agree or disagree with the approach to maintaining and enhancing biodiversity and ecological networks?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. The NDF Biodiversity Policy

1.1. The NDF Biodiversity Policy is a strategy for WG and key partners to enhance biodiversity and ecosystem resilience by:

- Safeguarding areas as ecological networks
- Ensuring “green infrastructure” is incorporated into development proposals.

Planning Authorities should incorporate these sites into development plans, policies and strategies and demonstrate cumulative action. The way this will happen is less clear and depends on the relationships between “key partners” and the level of authority invested in each. (See response to Q8: Policy 16).

1.2. We warmly welcome the intention to embed ecological networks and green infrastructure within the planning system in spatial plans but, on the basis of the Policy 8 presentation, we have many doubts about how this can work in practice and recommend that the confusion is addressed.

2. Level of Planning hierarchy

2.1. Policy 8 says action is “best” at regional or local level and therefore the strategy is entrusted to lower planning tiers. LPAs should work with NRW, whose forthcoming 7 Area Statements covering 6 areas of Wales (+ one marine) will provide an evidence base and identify priority areas for action. These will count as material planning considerations and therefore NRW has a major new role in planning. Strategic and local plans will make Green Infrastructure Assessments which will use NRW indicative maps on biodiversity themes as a starting point, and will develop spatial plans and strategies for intervention.

2.2. Regional and Strategic development plans are new arrivals at the ball. They introduce different areas of jurisdiction in addition to the new NRW Areas and existing LPAs. We also read in “**Supporting Green Infrastructure**” that “*Local authorities and Natural Resources Wales should work together to ensure that appropriate action is taken to safeguard sites both **within and beyond** their administrative boundaries*”. This presumably means through joint agreements with neighbouring authorities which, for some LPAs, are partly in England. We believe that the multiplication of jurisdictions will make it even more difficult for cash-strapped and poorly-staffed LPAs to function and we have much sympathy with their plight.

3. **New concepts not yet tested in planning**

3.1. “*Green infrastructure*” - a much-quoted but little tested concept probably more appropriate to urban areas than countryside

3.2. Area Statements – an entirely new idea, likely to be based on GIS maps. Area Statements are so much delayed in evolution that now there is no time left, before they are launched in Spring 2020, for the promised meaningful consultation about the usefulness of these maps or about local biodiversity issues with local stakeholders. We have no idea about the size, purposes or descriptions of AS priority areas and how they will accommodate different forms of land-ownership. NRW managers say they expect the development of area statements to be web-based and “iterative” which probably means “quasi-experimental”. All these factors will make it difficult for planning authorities to address the NRW priority areas as material planning considerations and to integrate them into green infrastructure intervention strategies.

CPRW welcomes Area Statements as possible leverage for the extreme difficulties LPAs demonstrate in fulfilling their Section 6 duties through planning and a means of increasing wild-life corridors to combat habitat fragmentation. However, we are disappointed with progress so far.

4. **Conclusions**

4.1. Overall, the strategy is muddled over about who being is required to do what, unclear about how action will lead to outcomes and not specific enough about how the outcomes will be achieved by the strategy.

4.2. Policy 8 strategy is designed to safeguard areas as ecological networks and ensure “green infrastructure” is incorporated into development proposals. **Outcomes 9 &10** require management, maintenance and enhancement of “*environmental value of resources*” (whatever that means), reduction in air pollution and reversing biodiversity decline. These are more ambitious outcomes and, given the many untried new planning tiers in the NDF, we cannot be sure that the strategy will succeed in achieving the outcomes.

4.3. The value of ecological “priority areas” is double-edged: while they can increase the chances of protecting these areas they can act as an excuse for degrading others. How many planning applications devote more effort to showing the development is **not** in or near any designated area than to honest assessment of what **is** at risk in the area of development?

4.4. Policy 8 as currently described does not promise to deliver the protection and enhancement required to **reverse the decline in biodiversity** required by the Environment Wales Act and UN 1992 Convention on Biological Diversity (EA s6 4 (a)). Policy 8 requires strengthening through revision.

5. **Relation to HRA and Policy 10**

- 5.1. The NDF HRA Appropriate Assessment concludes (p39) *“the inclusion of Policy P8 within the NDF (which it is anticipated will indirectly provide protective buffering for Natura 2000/ Ramsar sites by protecting and enhancing ecosystem services, ecological networks and biodiversity in the wider countryside) provides an overarching safeguard to which other policies within the NDF, as well as those in lower-tier plans, will be required to adhere”*. We do not agree. Policy 8 does not mention buffering of designated sites and the strategy is not an overarching safeguard. It delegates as yet undefined spatial safeguarding powers to lower-tier planning authorities.
- 5.2. We note that the large allocation of land to Priority Areas for Wind and Solar development will have a significant net negative impact on biodiversity. The HRA addresses impact on Natura 2000 and Ramsar sites but not the inevitable devastating impact on ecological networks throughout Wales

6. National Forest

- 6.1. CPRW welcomes the idea of a National Forest. This needs to be ambitious in shape, character and location, providing continuity across Wales and the full variety of native woodland types and habitats with different densities of tree cover and other plant communities. We note that, in contrast to other development policies in this Framework, there is **no spatial plan** suggesting that Policy 9 is an “also ran” Policy. We urge the WG to give the National Forest the same status and urgency as the economic development policies at the centre of the dNDF.

7. Renewable Energy and District Heat Networks (policies 10-15)

- To what extent do you agree or disagree with the NDF's policies to lower carbon emissions in Wales using...

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
Large scale wind and solar developments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
District heat networks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- If you disagree with the NDF's approaches to green infrastructure, renewable energy or district heat networks, what alternative approaches should we consider to help Wales to enhance its biodiversity and transition to a low carbon economy?

CPRW's disagreement is more fully set out in **the separate self-contained submission appended to this response SEE Q15**. It wishes to see a fully informed analysis of the climate emergency and a comprehensive suite of policies designed to address it. It stresses that it is most eager to contribute constructively to the policy debate in achieving this aim but at present the NDF does not provide a coherent and fully-argued basis for doing so

CPRW's concerns are summarised in its **Urgent Interim Response** to Ministers dated 7th November 2019. In it we argue that the previously unpublished Assessment of Onshore Wind and Solar Energy potential is so misconceived and error-laden that it is unfit for purpose, and should be removed from the NDF until it is re-scoped and re-written.

Briefly the reasons for this are:

- the Assessment does not set out a clear statement of current and projected electricity generation and consumption; ignores the fact that Wales is a net exporter of electricity; and fails to quantify the level of additional renewable energy output required to reach the target of 70% by 2030;
- it considers only onshore wind and solar technologies as contributors and ignores the role of other existing and viable sources over the target period, notably the draft Marine Plan's commitment to expand offshore wind;

We note that the 2018 NDF

- it is full of fundamental errors in defining the 15 wind and solar Priority Areas and fails to describe or assess potential impacts of its proposals upon them;

- d) although incredibly complex, it is not a fully-fledged document and has emerged into the NDF process without prior consultation or public debate;
- e) in its present form it is not therefore a Framework document conforming to the aims and scope of the NDF as a whole - and is **unfit for that purpose**.

Extra Issues

Planning conditions

We would like to draw your attention to the impact on LPAs of WG Ministers deciding all RE projects over 10mw but expecting LPAs to deal with the problems of discharge of conditions (which they have not set themselves), with developers who act in breach of conditions and with issues of enforcement. We believe this is “power without responsibility” – the responsibility, financial costs and legal risks falling on LPAs.

WG Plans, Policies etc. are not integrated or synchronised

PPW11 has not appeared, dNDF is at the end of consultation, Sustainable Farming & OL has just finished consultation, The dManual for LDPs is having responses reviewed, the WNMARINE P has just been adopted. Ideally, these policies should be integrated and refer to one another.

Local Ownership of RE

This has been poorly thought through and, at its most feeble, seems to just require a development company to have Welsh office.

Marine Energy

We are at a loss to understand why the onshore wind and solar assessment is not accompanied by an analysis of the marine energy potential so that a comprehensive and rational approach to renewable energy deployment can be considered. At present the Priority Areas for these two technologies alone are defined under a false prospectus. In the 2018 NDF there are clear references to the Wales national Marine Plan (WNMP) in ‘NDF Issues, Options & Preferred Option - Consultation Paper’ at Appendix B p12 which states:

There is significant renewable energy potential off our coastline, including tidal, wave and wind energy. The Welsh National Marine Plan seeks to maximise the opportunity to sustainably develop marine renewable energy resources, whilst fully considering other’s interests and ecosystem resilience. The planning system has an important role to play in facilitating the on shore requirements of these generators, as well as enabling associated leisure and tourism benefits.

8. The Regions (policy 16)

- To what extent do you agree or disagree with the principle of developing Strategic Development Plans prepared at a regional scale?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. Policy 16: Regions and Strategic Development Plans

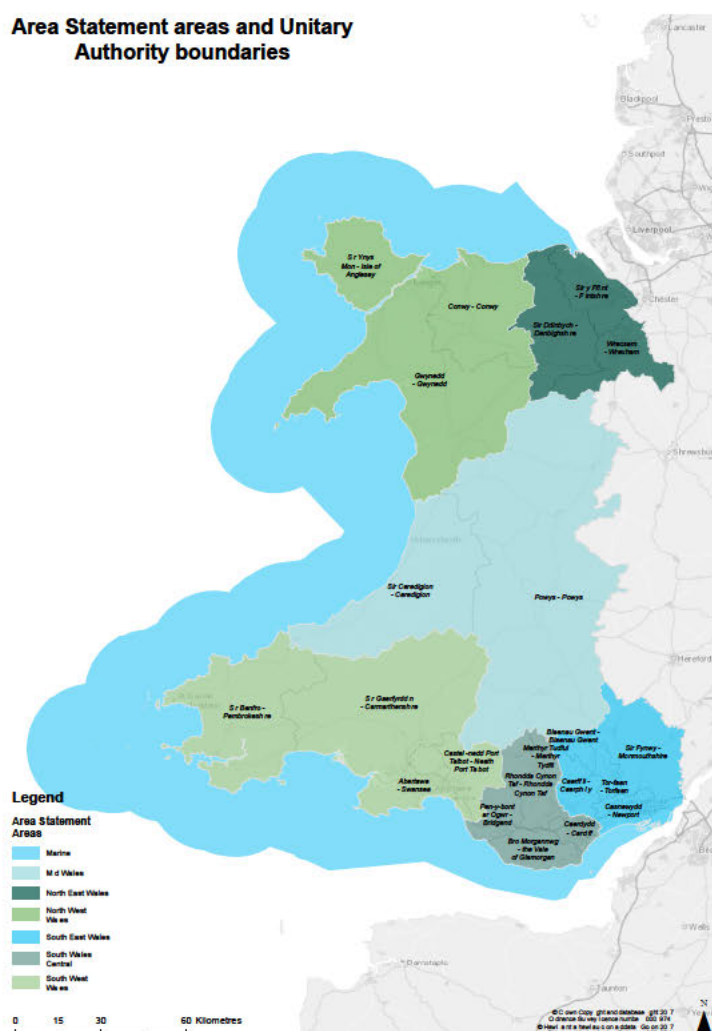
1.1. The NDF will be built on by SDPs at a Regional level and LDPs at a local level. Therefore LPAs would have to co-operate to participate in SDPs.

1.2. However it is not so simple.

Confounding factors are:

- “Local planning authorities **should determine their geographical footprints**” (NDF p46)
- “Strategic Development Plans are prepared at a regional level covering **more than one local planning authority area**” (NDF p10)
- “Strategic Development Plans are prepared at a regional scale. They consider strategic regional issues in relation to future growth areas, housing demand, economic development, transport and green infrastructure which **cut across local planning authorities** and require a regional, integrated planning response” (NDF p44)
- “An SDP must express a vision and a strategy to deliver the vision for the region as a whole. In addition, it should also express **sub-regional strategies for either individual LPAs or combinations of LPAs to enable LDPLs or JLDPLs** to be progressed at a later date” (Development Plans Manual Ed 3 2019 10.6)
- “To initiate the SDP process and establish a Strategic Planning Panel (SPP) to prepare an SDP, **an LPA or group of LPAs acting on behalf of all those LPAs wishing to participate in an SDP** (the responsible authority (ies)) must approach the Welsh Ministers to express an interest in progressing an SDP “ (Development Plans Manual Ed 3 2019 2.7)
- “Where change happens at a more local scale where an SDP is adopted, **LDP Lites (LDPLs)** will be the more appropriate way forward. These will be much shorter, focussed plans, essentially an allocations document, accompanied by local policies.” (Development Plans Manual Ed 3 2019 2.10)
- The preparation of **Local Well-being Plans, Area Statements** (Natural Resources Wales); regional transport models and plans (Transport for Wales); and the Welsh Government’s Housing Need Assessment are examples of work that can directly support the preparation of Strategic Development Plans (NDF p46)
- “There is to be **a public services board for each local authority area** in Wales.” (WBFGA)

- “A public services board must prepare and publish a plan (a “**local well-being plan**”)” (WBFGA)
- Any priority areas for action identified in **Area Statements** are a material planning consideration, and development plans should set out appropriate policies to safeguard and connect these areas, and to protect and enhance their identified key ecological functions and features. (NDF p34)



local programmes discredited. Conflicts will arise for LPAs as their recently adopted LDPs are contradicted by over-arching spatial policies. The type of spatial planning conflict resulting from this NDF for LPAs with recently adopted LDPs, who discover they contain Priority Areas in Policy 10, will be repeatedly reproduced throughout the hierarchy. The loss of periods of planning certainty discourages authorities and undermines democracy, threatening local public participation in shaping our places through the planning system.

- 1.6. We cannot see how LPAs, who are already struggling for funds and staff, particularly staff with adequate professional qualifications and experience, could possibly manage all this. The management time devoted to meetings, administration, reports and WG box-ticking will leave LPAs in an even worse state that they are currently. We anticipate that the stress of coping with an unworkable muddle of planning tiers will mount, recruitment will suffer further and new inexperienced staff will be even less able to cope. CPRW is very sympathetic with the predicament of LPAs.
- 1.7. Both the role and operation of the Regional System need simplification and clarity about chronology, integration and public participation across the suite of government policy.

9. North Wales (policies 17-22)

We have identified Wrexham and Deeside as the main focus of development in North Wales. A new green belt will be created to manage the form of growth. A number of coastal towns are identified as having key regional roles, while we support growth and development at Holyhead Port. We will support improved transport infrastructure in the region, including a North Wales Metro, and support better connectivity with England. North West Wales is recognised as having potential to supply low-carbon energy on a strategic scale.

- To what extent do you agree or disagree with the proposed policies and approach for the North Region?

[illegible]

10. Mid and South West Wales (policies 23-26)

Swansea Bay and Llanelli is the main urban area within the region and is our preferred location for growth. We also identify a number of rural and market towns, and the four Haven Towns in Pembrokeshire, as being regionally important. The haven Waterway is nationally important and its development is supported. We support proposals for a Swansea Bay Metro.

- To what extent do you agree or disagree with the proposed policies and approach for the Mid and South West Region?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
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11. South East Wales (policies 27-33)

In South East Wales we are proposing to enhance Cardiff's role as the capital and secure more sustainable growth in Newport and the Valleys. A green belt around Newport and eastern parts of the region will support the spatial strategy and focus development on existing cities and towns. Transport Orientated Development, using locations benefitting from mainline railway and Metro stations, will shape the approach to development across the region. There is support for the growth and development of Cardiff Airport.

- To what extent do you agree or disagree with the proposed policies and approach for the South East Region?

Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	<i>Don't know</i>	<i>No opinion</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you have any comments about the NDF's approach or policies to the three regions, please tell us. If you have any alternatives, please explain them and tell us why you think they would be better.

1. Three Regions

- 1.1. While we are not fully convinced of the common interests within any of the three Regions, the worst in this respect is certainly Mid and West Wales which unites Powys, Ceredigion, Carmarthenshire, Pembrokeshire, Swansea and Neath Port Talbot.
- 1.2. This huge area is evidently a residual category once the "near South" (Cardiff-centred industrial belt and Valleys) and the "far North" have been delineated. It is as large as the other two combined and has presumably been designated to even up the populations of the three regions. However this decision in no way respects the strategic needs of the major areas within this Region which are different precisely because of the rural nature of Mid-Wales and the fact that there is no clear dependency on any particular large Welsh or English town. The small traditional market towns of Powys, and Ceredigion, rooted in the very rural areas they serve, have vanishingly little in common with Swansea and Neath Port Talbot in almost every social and geographical respect. The populations know nothing about each other unless, perhaps, someone falls asleep on the Heart of Wales Railway line.
- 1.3. We trust we will not be the only ones to query the rationale for this Region and ask for it to be divided into two with Powys included in a Central East region with Ceredigion. This Region would have the distinct advantage of being coterminous with the NRW Area and being more similar in size to the others.

12. Integrated Sustainability Appraisal

As part of the consultation process, an Integrated Sustainability Appraisal (ISA) was conducted to assess the social, economic and environmental impacts of a plan. The report identified a number of monitoring indicators, including health, equalities, Welsh language, the impact on rural communities, children's rights, climate change and economic development.

- Do you have any comments on the findings of the Integrated Sustainability Appraisal Report? Please outline any further alternative monitoring indicators you consider would strengthen the ISA.

1. ISA 17 Objectives

- 1.1. The Arcadis ISA selected **17 objectives** (Table 2-1), informed the NDF drafting and checked the sustainability (derived from the Well-being of Future Generations Act) of the consultation draft. CPRW applauds the undertaking of this exhaustive iterative approach however the 350 pages of the stages and suite of tables illustrating the procedure are too extensive and complex for our detailed assessment in this context. We are not surprised that many other responses fail to address them. Sadly, this omission will mean that an important overall view of the fitness of the NDF is lost.
- 1.2. The central question must be whether the **17 objectives** (as measures) do capture and ensure the **sustainability** of the dNDF. Four topics are central to our remit: **landscape, biodiversity, heritage and living conditions in rural communities**. All of these are of key importance to "rural proofing" and demonstrating sustainability in these areas is essential to prove that the ISA "helps to ensure that the ISA and NDF takes into consideration the interests of a diverse range of people reflective of Wales." (p9).
- 1.3. ISA 1.6.4 quotes the **SEA Directive requirement** to consider "the likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural heritage, landscape and the interrelationship between the above factors..." This requirement covers our remit apart from some aspects of rural living conditions such as economic opportunities and protection of amenity.

2. Landscape

- 2.1. In the NDF, Wales is described as a living landscape and NDF Objective 9 says that Landscape qualifies as an "asset of great value in its own right". There are various tributes to the quality of particular landscapes but overall NDF policy is weak on the subject. Within the NDF reasoned justification there is a scattering of the broad statement "The management of natural resources and flooding and the protection and enhancement of areas of environmental and landscape importance should inform strategic decisions on locations for growth and new infrastructure." The reasoned justification for Policy 10 claims "A strategic review of landscape and visual impact identified the Priority Areas for Solar and Wind Energy as the most appropriate locations to accommodate landscape

change” which we dispute.

2.2. ISA objective 13 mentions Landscape. Table 1.6 relates the SEA Directive topic of Landscape to ISA Objectives 7, 13, 14 & 17 and ISA 2.4.2 considers Landscape has been strengthened. But when we look at **Policy-wording, which is the critically important part of the NDF**, Landscape is mentioned hardly at all: Policy 6 and Policy 11 insist “significant adverse landscape impacts” must be avoided. Policy 10 includes “acceptance of landscape change” in Wind and Solar RE Priority Areas.

2.3. Landscape is discussed in more detail in our responses to RE policies see Q15.

3. Biodiversity

3.1. The ISA analysis relies on the incorporation of the HRA which relates only to Natura 2000 sites and Ramsars. These are important but only represent a minute portion of the declining species and habitats at critical risk throughout Wales.

3.2. Even if we accept the scoring in the key Table 2.8, Air quality, Water, Biodiversity and geodiversity, & Natural Resources all score plenty of “minor negative” (pink), some of which should undoubtedly be “strong negative ” (red) had there not been an underlying bias towards positive scores and motive to suppress red scores. The only NDF Policy red score red is the long-term impact of the Development of Holyhead port on Green House Gases and Energy. Many strong positives rely on the “mitigation” of avoiding negative impacts and some of these connections are tenuous.

3.3. The Policy 10 Priority Areas covering 20% or rural Wales scores dark blue: “range of positive and negative outcomes”. The NDF must have regard to Section 6 of the Environment (Wales) Act, which in turn is governed by the UN 1992 Convention on Biological Diversity (EA s6 (a)) which notes that “the fundamental requirement for the conservation of biological diversity is the **in-situ** conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings”

3.4. We note that the amended ISA published on 28/8/19 replaced “the NDF seeks to maximise onshore wind and solar energy potential, whilst **minimising the potential impact on the most sensitive environmental and cultural assets**” with a more bland statement: “there is a presumption in favour of large scale on-shore wind and solar energy generation potential in the Priority Areas for Renewable Energy, and acceptance of landscape change and **a focus on maximising benefits an minimising impacts.**” “Sensitive environmental and cultural assets” has been removed.

4. Heritage/Historic Environment

4.1. We note that the amended ISA published on 28/8/19 removed the reference to cultural assets on p143 of ISA replacing “the NDF seeks to maximise onshore wind and solar energy potential, whilst **minimising the potential impact on the most sensitive environmental and cultural assets**” with “there is a presumption in favour of large scale on-shore wind and solar energy generation potential in the Priority Areas for Renewable Energy, and acceptance of landscape change and **a focus on maximising benefits an minimising impacts.**”

4.2. This is represented in ISA Objective 14 which has an overwhelming negative (pink – but see 3.2 above) score against dNDF policies. This should be addressed **in dNDF Policy** so that a

transparent positive assessment is achieved.

5. Rural Living Conditions

5.1. The NDF is largely a framework for towns and the “rural-proofing” exercise is not convincing. The realities of the rural economic structure is not recognised. We regret that, although “tourism” appears scattered throughout the ISA, it does not appear once in ISA Objectives or in dNDF Policy wording. NDF Policies 10 and 11 (renewable energy) score positively against a swathe of economic factors however associated employment opportunities for rural residents are very limited and confined to construction phases (therefore short-term only) while the impacts of the Priority areas in Policy 10 on rural income from tourism threatens to be economically devastating for rural market towns and smaller communities.

6. Conclusion

6.1. Table 2.8 (p55) matches NDF policies against the **17 objectives** however the scoring depends on aspirational “guesstimates” of the **impacts of the dNDF policies** and the **ability of the NDF policies to achieve the NDF outcomes** which makes the entire exercise open to accusations that is both circular and value-laden rather than objective.

6.2. ISA Conclusion (p66) says “the Spatial Strategy proposed in the NDF would be expected to result in predominantly positive sustainability impacts, with significant positive impacts on most ISA Objectives likely.”

However it goes on to say that **impacts on :**

Objective 5 -Welsh Language,

Objective 6 – GHG & Energy

Objective 7- Flood-risk,

Objective 8 - Air Quality

Objective 9 – Water

Objective 13 – landscapes and townscapes

Objective 14 –Historic Environment & Assets

Objective 15 - Welsh Culture

Objective 16 - Biodiversity and Geodiversity

Objective 17 – Natural resources

- which is **ten out of seventeen Objectives**, were “**more mixed**”.

6.3. **The WG is facing a Climate Change and Biodiversity emergency. When those Objectives which not clearly met are presented in a transparent list as in 6.2 above, this does not support the ISA conclusion about the sustainability of the NDF.**

13. Habitats Regulations Assessment

As part of the development of the NDF, a Habitats Regulations Assessment (HRA) was undertaken. The purpose of the HRA process is to identify, assess and address any ‘significant effects’ of the plan on sites such as Special Areas of Conservation and Special Protection Areas for birds.

- Do you have any comments on the Habitats Regulations Assessment report?

Our HRA Response is set out in full in Appendix 2 to our expanded response to Q7 which has a summary at Q15.

1. Dating issue

- 1.1. The handling of HRA documents has been regrettable. The HRA was clearly not ready for consultation with the public. The original HRA documents presented for public consultation were incomplete, partially out-dated and did not include the essential evidence relating the refined Priority Areas (PAs) to Natura 2000/Ramsar sites (NK2/Rs) in the 8 maps now provided in APPENDIX B: Appendix B. The WG changed the documents for this legally required HRA process after the consultation began and without alerting the public. After our complaint, the consultation period was extended by a two-week period reflecting the date of the document change (21/8/19) rather than the later date on which the public were notified of the change (17/10/19).
- 1.2. This is the third Arcadis draft signed off on 1/7/19 of the assessment made on the dNDF dated 15/5/19 later described as “first draft of NDF” (p1). The dNDF for consultation is only dated by the consultation dates (7/8/19 to 1/11/19 - now extended to 15/11/19) so we do not know if the 15/5/19 version was the final dNDF.

2. General

- 2.1. The HRA is defined: “The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site’s structure and function and its conservation objectives”. With the three conditions (no alternative / IROPI / adequate compensation) governing consent in the case of significant likely effects on an NK2/Rs. The question is of whether it has fulfilled this remit.
- 2.2. The HRA report has a reasonable and clear structure. It describes clear set-back buffers for the site designations although the chough is the only species meriting a species-specific buffer. It sets out HRA requirements and screens the policies providing Appropriate Assessments for the 20 out of 33 Policies which are screened in. It provides a useful Rule of Thumb section. It claims that (p4) “Given the nature of the NDF, it is therefore the lower-tier plans which will include sufficient detail to allow for a meaningful assessment of the potential impacts that such development could have on Natura 2000/Ramsar sites. The HRA at this level of the planning hierarchy is therefore necessarily high-level and precautionary.”
- 2.3. It fails to address the in-combination effects within Policy 10 and between policies within the NDF because, it claims, without any specific sites, these cannot be assessed for any particular NDF policy.
- 2.4. It also fails to address the in-combination effects between the NDF and other policies, programmes etc. For instance, it says (p17) that since the WNMarineP has been subject to HRA which found there was appropriate lower-tier, plan-level mitigating provision, this together with the wording of the NDF will provide protection to marine environments. We believe that, in as much as there are spatially defined policies in the WNMP, there should have been discussion of the possible in combination effects of a spatially defined policies on land and in marine areas. An example might be discharge of effluent at sea from increased

development on land.

2.5. With respect to Policy 10, the first criterion of the DTA guidance is that “a plan making body may only rely on mitigation measures in a lower-tier plan or project” if “the higher-level plan cannot reasonably predict any effect on a European site in a meaningful way”. Policy 10, in particular is a **spatially defined** policy carrying a presumption of planning approval in PAs. Therefore there is a fundamental issue of whether NK2/Rs will in fact receive the same level of protection **with defined PAs** as they would have done **without defined PAs**. The report fudges this issue. The same applies, if in lesser measure, to some of the place/area specific policies (P17 - P33).

2.6. The Appropriate Assessments required by law do not discuss what types of mitigation/compensation are available or acceptable should the WG claim IROPI circumstances and the NDF confines its discussion of specific measures to protect biodiversity interests to Policy 8.

2.7. This is an HRA of the NDF “**and the process by which it was derived**” (APPENDIX B p2). The HRA correctly, emphasises that the **evolution** of the NDF has improved the prospects for NK2/Rs however the evolution of the NDF Policy 10 involved the ARUP distinction between fixed and variable constraints which also governs the entire classification of the **areas of most opportunity** which themselves underlie the delineation of PAs. The implication of including (for instance) peat deposits and fresh water surfaces as variable rather than fixed constraints is not discussed.

2.8. All the above leave an uncomfortable and serious doubt as to the level of protection which might emerge in practice.

2.9. We have already seen the Minister’s decision over Hendy Wind Farm, within the catchment of the Wye SAC which is only 1 km away, accept an Appropriate Assessment based on generic construction precautions with no site-specific information and no consideration about the presence or migration of species, including white-clawed crayfish, as set out in this HRA.

(p 6) *“Finally, whilst a buffer of 5km has been set for SAC habitats, wherever a riverine SAC is downstream of a proposed development, impacts associated with significant mobilization of sediment could extend further than this. This is less due to the fact that sediment is likely to travel further than this, and more because individual fish species associated with these sites can readily occur some distance upstream from the boundary of the designated river (e.g. in undesignated tributaries).”*

Furthermore, the Appropriate Assessment considered that Planning Conditions were sufficient protection but the Developer has proceeded without discharge of conditions precedent and no action has been taken.

2.10. **All the above leave an uncomfortable and serious doubt as to the level of protection which might emerge in practice.**

We would like to know your views on the effects that the NDF would have on the Welsh language, specifically on opportunities for people to use Welsh and on treating the Welsh language no less favourably than English.

- What effects do you think there would be? How could positive effects be increased, or negative effects be mitigated?

Wales is fortunate to be a bi-lingual nation. We support the aim to increase the number of Welsh Language speakers and the need for the planning system to be pro-active in creating favourable conditions to aid the retention and increase in the use of the language. We support the availability of suitable opportunities to learn Welsh in those areas which historically had fewer Welsh speakers, whilst fostering the existing culture in other areas. This helps to sustain the cultural identity of rural areas in particular.

Please also explain how you believe the proposed NDF could be formulated or changed so as to have:

- I. positive effects or increased positive effects on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language, and
- II. no adverse effects on opportunities for people to use the Welsh language and on treating the Welsh language no less favourably than the English language.

15. Further comments

- Are there any further comments that you would like to make on the NDF, or any alternative proposals you feel we should consider?

We have prepared an expanded response to Policy 10 of the NDF in a **separate** document: **PART 2: The NDF's Onshore Wind and Solar Assessment**

(This is to make it easier to read because.....

1. it is long
2. the tables and maps are not stable in the response form boxes
3. we have put much of the supporting information in Appendices).

The structure is below:

PART 2

The NDF's Onshore Wind and Solar Assessment

1. The renewables target
2. The Onshore Renewable Energy Technologies used in the NDF
3. 70% in 2030 - what does it mean and what does it involve?
4. The 15 'Priority Areas' (PAs)
5. The Rational Solution
6. Conclusion

Appendix 1.

Table: Application of Constraints: Arup vs Aecom methodology

Appendix 2.

Full Response to HRA ASSESSMENT OF dNDF

Appendix 3.

ERRORS, PROBLEMS & METHODOLOGY in the EVIDENCE
for ENERGY POLICY - in draft NDF 2019

16. Are you...?

Providing your own personal response	<input type="checkbox"/>
Submitting a response on behalf of an organisation	<input checked="" type="checkbox"/>

Responses to the consultation will be shared with the National Assembly for Wales and are likely to be made public, on the internet or in a report. If you would prefer your response to remain anonymous, please tick here	<input type="checkbox"/>
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CAMPAIGN FOR THE PROTECTION OF RURAL WALES

The NDF's Onshore Wind and Solar Assessment

- 1 The renewables target:**
- 2 The Onshore Renewable Energy Technologies used in the NDF**
- 3 70% in 2030 - what does it mean and what does it involve?**
- 4 The 15 'Priority Areas' (PAs)**
- 5 The Rational Solution**
- 6 Conclusion – what should the Welsh Government now do?**

1 The renewables target: 70% of electricity consumption to be generated from renewable energy by 2030

- 1.1 The Renewable Energy (or more correctly the Onshore Wind and Solar) Assessment in the NDF falls at the first hurdle. It has a fundamental flaw from which it never recovers. This is its unwarranted and counter-productive decision to limit the project to two terrestrial technologies – onshore wind and solar - and then to concentrate them in spatially defined Priority Areas (PAs).
- 1.2 This is in direct contradiction to the recently confirmed Welsh National Marine Plan (12th November 2019) which identifies offshore wind and other marine technologies as the key future means of expanding renewable output. Worse still, onshore wind and solar alone have no prospect of generating enough electricity to reach the target without extensive and previously unthinkable damage to the Welsh countryside in the PAs, which are in locations ruled out for major projects when TAN8 drew up the Strategic Search Areas (SSAs) in 2005.
- 1.3 These faults are compounded by a complete lack of factual justification. There are other flaws - on which most respondents will have impaled themselves – such as the wearisome and disorganised texts, the regurgitative, often irrelevant, and impenetrable detail – but it is this which invalidates the concept.

CPRW has many points of critical detail about the text in the Wind & Solar Assessment Stages 1 and 2, which - rather than becoming a distraction to the main text, are included among others in the compendium of errors **Appendix 1**. The Welsh Government should take note of these flaws.

2 The Onshore Renewable Energy Technologies used in the NDF

Key Questions and Answers

The focus on onshore wind and solar pv ... and exclusion of others		
Question	NDF Answer (or not)	Actual Answer or comment
Why is the NDF's renewable energy target confined to onshore wind and solar ?	No explanation other than that the NDF is described as a land use concept	Contradicts the policies of the Welsh Government. Significant range of viable marine technologies available as set out in the publication Energy Generation Wales [EGW 2018] and positive references to offshore wind and other marine technologies in the Welsh National Marine Plan [WNMP]

2.1 Energy Generation Wales 2018 (published September 2019) notes that

'over the past decade the costs of offshore wind have rapidly declined, and it continues to receive strong support from BEIS. Wales is committed to developing sustainable marine energy generation. The Welsh Government considers these technologies to be part of the energy mix in Wales to provide a secure source of renewable energy [EGW p30].

2.2 The Welsh National Marine Plan (WNMP) - also a 20 year 'vision' - <https://gov.wales/welsh-national-marine-plan-document> was published on 12th November 2019 and had been available in draft for a considerable time. It covers both the Welsh inshore region (from mean high water spring tides out to 12 nautical miles) and offshore region (beyond 12 nautical miles) in a single document.

2.3 The WNMP contains a large range of explicit text and policy references to the role of marine renewables in a strategic approach to the target. Examples are:

Objective 3 [p5] – 'Support the opportunity to sustainably develop marine renewable energy resources with the right development in the right place, helping to achieve the UK's energy security and carbon reduction objectives

326. This Plan recognises that marine energy resources around Wales offer a good opportunity to deliver significant renewable energy generation and thereby to make a strong contribution to securing an appropriate mix of sustainable energy provision,

327. The Welsh Government's ambition is for marine renewable energy to make **an increasingly significant contribution to the overall energy mix** over the lifetime of this Plan, contributing to achieving the outcomes set out in the Energy Policy Statement Energy Wales: A Low Carbon Transition (2012)³⁸.

331. The Plan area includes good wind resource in deeper water, particularly to the west and south west. Offshore wind energy is a proven and strategically important energy technology and the costs of deployment are decreasing rapidly, making this a viable and attractive renewable energy option for Wales, with considerable scope for further large-scale offshore wind activity. **Offshore wind has significant potential to contribute to renewable energy targets during the lifetime of this Plan**

332. Although currently less well progressed than offshore wind, both wave and tidal technologies also offer significant potential in the medium to long-term.

335. Welsh Government has considered alternatives to the need for large scale deployment of marine renewable technologies and concluded that **there is a strategic need to support the development of marine renewable energy generation capacity.**

339. The narrative underpinning the Energy – Low Carbon Sector Objectives sets out the Welsh Government's conclusion that there is **significant potential and a strategic need to develop marine renewable energy generation in the Plan area**. It identifies offshore wind energy as **a proven and strategically important technology with considerable scope in the near term for further large-scale development**. It also recognises that wave and tidal technologies may offer medium to longer term potential.

- 2.4 Only the architects and authors of the NDF will know the reason for its decision to advance two terrestrial technologies at the expense of the marine energy policies as set out in EGW 2018 and amplified in the WNMP. At a stroke, these two statements of current Welsh Government policy invalidate the NDF Wind and Solar Assessment, crucially because it takes on itself an exclusive aim to reach the 70% target by these two technologies alone – a choice which in turn results in unacceptable adverse impacts on rural Wales.

3 70% in 2030 - what does it mean and what does it involve?

- 3.1 Immediately, further key questions arise and are neither addressed nor answered in the NDF:

To what does the renewable energy target of 70% of consumption by 2030 relate? Is it the level of present consumption projected forwards to that date? Or is it the anticipated level of consumption in 2030 - which is certain to increase as we replace fossil-fuel usage in cars and appliances with extensive battery powered renewable electricity? And if so – what is that forecast level?

What is the level of current consumption and what proportion is already generated from renewables? Thus, what is the baseline of the process?

What does 70% of current consumption then require in terms of increased renewable generation? How many wind turbines, of what size, and how many hectares of solar panels would this require? How would these be distributed between the 15 'Priority Areas' and what would be the impacts upon them?

If the 70% is instead to be related to the anticipated - rather than current - consumption in 2030, by how much would these numbers and consequences change?

- 3.2 In principle, the absence of this key information is unacceptable in any government document of such potential importance. In this case it is truly shocking because most of the missing answers to the missing questions were already available in a cogent and well-circulated public document issued by the Welsh Government - as Energy Generation in Wales 2017. An update for 2018 has now been published in September 2019 [**EGW 2018**].and has been used in this critique to address these issues. The process is set out in a simple format in the Table below.

Questions and Answers about the RE assessment in the NDF

<p style="text-align: center;">The key NDF policy target to address the Climate Emergency: Raise RE generation to 70% of Welsh electricity consumption by 2030</p>		
Question	NDF Answer (or not)	Actual Answer or comment
a) Is the target based on the anticipated level of electricity consumption in 2030 ? and if so, where is that defined or calculated?	Apparently, NO Not defined in NDF text	2030 current consumption is likely to increase due to widespread electrification of fossil fuel consumption - see below
b) Is the target instead based on the current consumption level?	Not clarified, but as no forecasts for 2030 are made the implication (rightly or wrongly) is YES	Latest figure for current total electricity consumption [2017] : 14.9 TWh pa [EGW 2018 p4]
c) Where is that level defined?	Not defined in NDF text	
d) What is the current level of RE electricity generation ?	Not defined in NDF text	7.426 TWh pa [EGW 2018 p5, p7]
e) What percentage is that of current consumption?	Not defined in NDF text	c 50% [EGW 2018 p8] (49.8% by calculation)
f) So, what is 70% of current consumption ?	Not defined in NDF text	10.43 TWh pa
g) What increase in RE generation is required to reach this at current consumption levels?	Not defined in NDF text	3.004 TWh f) minus d)
h) Are there any indications within the NDF of what level of RE generation is required to reach the 70% target?	YES: An obscure table at Wind & Solar Assessment Stage 2 Appendix E considers the need for extra grid connection to convey the additional power. In the process it estimates the MWh output and MW capacity needed in each PA to meet the [undefined] 70% target	These PA totals add up to 9.05TWh pa - three times the amount calculated above to reach 70% of current consumption. Further unexplained estimates are made in Appendix E for Low, Medium and High coverage of the PAs giving 9.6, 48, and 96 TWh pa respectively
i) However, what might be the anticipated consumption level in 2030 (allowing for electrification of fossil fuel usage) and how might that affect the 70% calculation?	Not mentioned in NDF text	Adapting a range of estimates to Welsh circumstances, a cautious estimate is to double current consumption by 2030 . [sources available]

j) What impact would that anticipated level have on current-basis forecasts?	Not considered in NDF text	RE extra generation would need to double from 3TWhpa to 6TWh pa
k) So why is the Appendix E forecast for 9TWh pa - and more in the three Low Medium and High options – while ignoring any contribution from marine technologies?	Not explained in NDF text	<p>This is open to speculation. It may relate to a greater anticipated consumption level 3x current rather than 2x. It may represent the ambition of vested interests.</p> <p>Nevertheless, the data in Appendix E '<i>to meet renewable energy target</i>' should be taken as a declared minimum intention of future expansion – irrespective of any additional marine generation.</p>

4 The 15 'Priority Areas' (PAs)

- 4.1 The PAs have been selected to accommodate the wind and solar expansion by a negative method which involves first excluding areas and locations of acknowledged sensitivity and in some cases constructing buffer zones around them. There are many flaws in this process, which are reviewed in the ERRORS document, while other objectors have made critical comments.
- 4.2 However, the consequence of this process is that the PAs have been left as merely those residual areas which are not ruled out by the initial process. Despite CPRW's view that they are unrealistic and inappropriate, for present purposes the NDF proposals have to be assumed to be tangible - and the impacts they would create need to be factualised. Policies 10 and 11 also anticipate an undefined scatter of turbines and solar arrays outside the PAs, while current consents and pending planning applications elsewhere will also lead to a significant additional number of projects being built.

Two main problems arise:

- there is no systematic account or justification of the wind and solar capacity attributed within the overall totals for each PA in Appendix E, and thus no indication of the numbers or specification of wind turbines or the extent of solar arrays which are forecast to be located within each;
- no systematic (even a 'high level') attempt has been made to assess the landscapes, settlement pattern, or other vulnerabilities within each PA, and thus their susceptibility to the proposed level of wind and solar development.

4.3 Calculations from Appendix E of Output and Capacities in the PAs

The Table below derives from the initial option set out in Appendix E ‘to meet renewable energy target’ and totalling 9.1 TWh, which provided individual figures for electricity generation (MWh) and overall installed capacity (MW) for each PA. The recalculation assumes a roughly equal capacity split between wind and solar in each PA.

PA	Wind or Solar	Area [ha]	MWh pa by year 2030	MW total	est. MW Wind	est. MW Solar
1	W+S	19278	701606	324	224	100
2	S	3266	234912	113	-	113
3	W+S	14733	994650	468	300	168
[15]	W+S	20486				
4	S	2643	170656	84	-	84
5	W+S	29381	290254	142	100	42
6	W+S	43092	765777	377	200	177
7	W+S	3853	129041	62	30	32
8	W+S	19015	400748	192	100	92
9	W+S	33079	543846	263	163	100
10	W+S	17935	391772	182	100	82
11	W+S	73223	1197407	577	377	200
12	S	20522	965394	450	-	450
13	S	23355	364317	181	-	181
14	W+S	93598	1899623	933	433	500
all		417459	9050003	4348	2027	2321
		20.09% Wales	[9.1 TWh]			
			9.18TWh	<<<<<<<<	6.75 TWh @ 38% CF	2.43 TWh @ 12% CF

Notes: Areas calculated by CPRW

PA 15 was defined later and is shown here as part of PA 3

Capacity Factors - 38% for wind,

[Arup Step 4 Table 4 for largest turbines only - likely to be an underestimate]

12% for solar as cited in EGW p6

The solar ‘panel efficiency’ (or CF) of 22% claimed by Arup at Stage 1 para 2.5.1 and described in the cited source is not valid for UK conditions and contradicts that defined at EGWp6 as 12%. This exaggerates output claims made by Arup

The next Table translates these capacities into the implied realities of turbine numbers and solar array extent for each PA. Three turbine size options have been considered, ranging from the typical current large machines of 110m to the two very large and super-large machines canvassed by Arup at Stage 1, 2.5.1 Table 4, and Stage 2, 3.1.1.1 Figure 2. While the largest machines might only prove practicable in the heart of some PAs, the probability is that only 110m turbines or a size below 181 might be used in many parts nearer to habitation or other sensitive receptors. Greater numbers would be needed, as suggested by the three options in the Table.

At present, solar arrays use standard devices and so their spread can be calculated more simply.

PA	Wind or Solar	Area	MW total	Est. MW Wind	No of turbines			Est. MW Solar	Area ha @ 2 ha /MW
					110m @ 2.5MW	181m @ 5MW	250m @ 10MW		
1	W+S	19278	324	224	89	45	22	100	200
2	S	3266	113	-	-	-	-	113	216
3	W+S	14733	468	300	120	60	30	168	336
[15]	W+S	20486							
4	S	2643	84	-	-	-	-	84	168
5	W+S	29381	142	100	40	20	10	42	84
6	W+S	43092	377	200	80	40	20	177	354
7	W+S	3853	62	30	12	6	3	32	64
8	W+S	19015	192	100	40	20	10	92	184
9	W+S	33079	263	163	64	32	16	100	200
10	W+S	17935	182	100	40	20	10	82	164
11	W+S	73223	577	377	152	75	38	200	400
12	S	20522	450	-	-	-	-	450	900
13	S	23355	181	-	-	-	-	181	362
14	W+S	93598	933	433	172	87	43	500	1000
all		417459	4348	2027	808	405	202	2321	4.642 km²
		20.09% Wales							

Taking all the PAs together, the result is that there would need to be between 808 turbines of 110m and 202 turbines of 250m – or various combinations . To this would be added an overall area of 4.6 sq km of solar arrays – which are likely to be on unsuitably sloping sites where visibility would be exaggerated.

4.4 What are we told about the PAs themselves?

Table 9 in Stage 1 para 5.5 (optimistically titled Spatial Analysis) reveals that the simple answer is – nothing. It sets out for each PA a ‘*Rationale for area included*’ but this consists purely of attributes relating to ‘*areas of greatest opportunity*’ [for renewable energy developments].

There are no assessments of what is inside the PAs – only what is **outside** and is to be protected from the 10MW+ schemes. Contrary to the spin in the text, the PAs have been defined in purely negative terms as dump zones for renewable energy projects which are excluded from the ‘no-go’ areas.

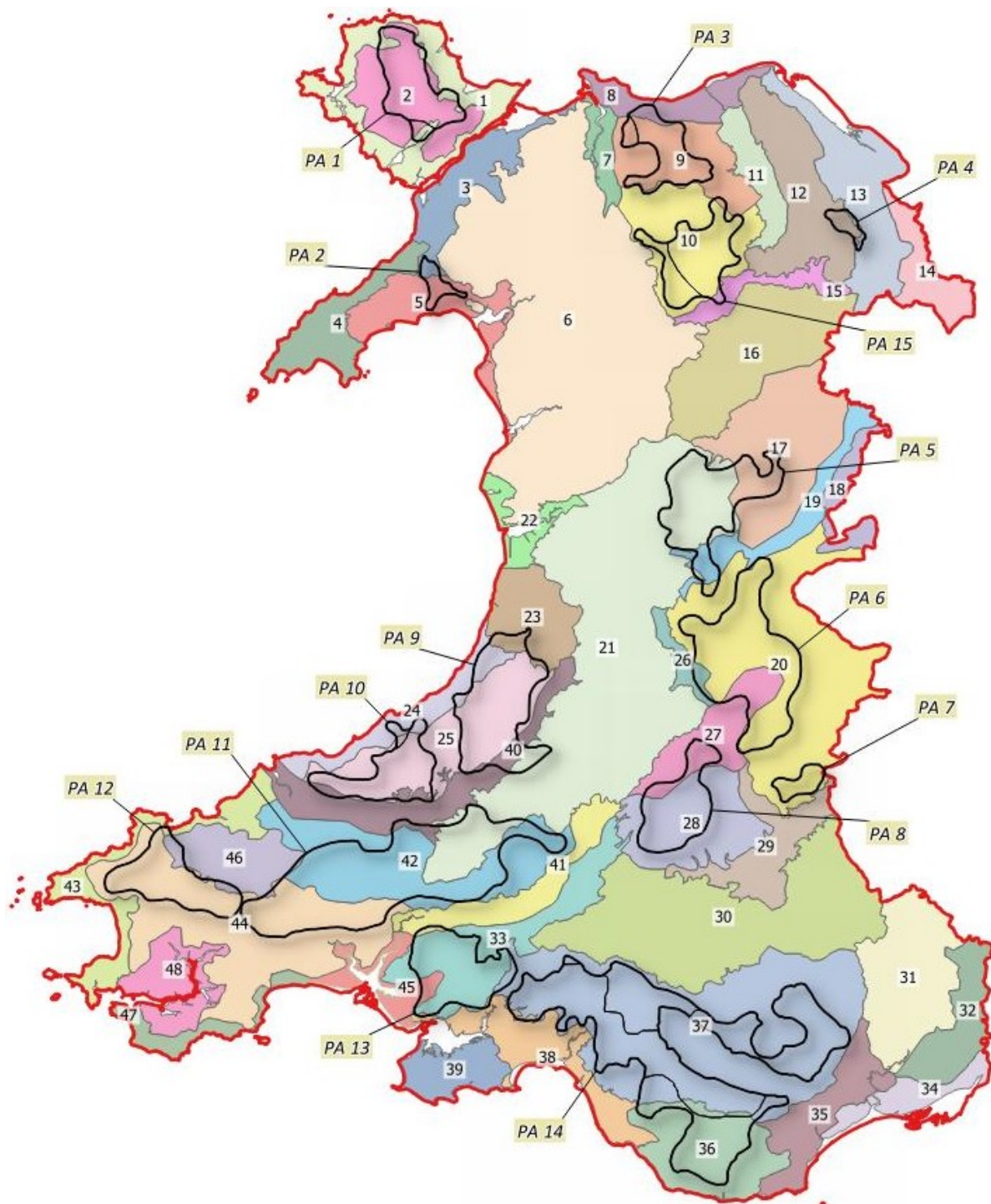
A general indication of the nature of each PA can be found in NRA’s National Landscape Character Assessment (NLCA) maps, which are not of recent date but are designed for use at the strategic level.

<https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en>

NLCAs contained within each PA are listed in the Table below. This relationship can be appreciated more accurately by reference to the map further below which also allows the PAs to be shown in their local and national context. Each NLCA has a simple Summary (reproduced below) which serves as an excellent general introduction. A range of other details plus excellent photographs are presented for each individual NLCA. It is appreciated that this is relatively broad ‘high level’ material but it can be focussed further by reference to LANDMAP.

PA	Wind or Solar	Area	Location	Relevant NLCAs		
1	W+S	19278	Ynys Mon	2		
2	S	3266	Llyn	5	3	
3	W+S	14733	North Denbighshire	9	8	
4	S	2643	Brymbo	12		
5	W+S	29381	Mid Montgomeryshire	21	17	
6	W+S	43092	North Radnorshire	20	27	
7	W+S	3853	Paincastle	20		
8	W+S	19015	Epynt	28	27	
9	W+S	33079	Mid Ceredigion	25		
10	W+S	17935	West Ceredigion	25		
11	W+S	73223	West Carmarthenshire	42	44	21
12	S	20522	Mid Preseli	44		
13	S	23355	East Carmarthenshire	33		
14	W+S	93598	Glamorgan	37	36	
15	W+S	20486	Hiraethog	10		
all		417459				

National Landscape Character Assessment with PAs



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Wind and solar Priority Areas digitised from Welsh Government document 'draft National Development Framework'.

PA	Wind or Solar	Area	Location	Main NLCAs		
1	W+S	19278	Ynys Mon	2		

Summary description **NLCA 2 Central Anglesey**

[Dominates PA1 and consists of main part of NLCA]

The area forms the agricultural core of the island, the part that earned it the name of 'Môn mam Cymru', 'Anglesey mother of Wales'. Although it's a gentle lowland landscape, the south-west to north-east geological trend of fault lines influence changes in topography, with a few hills and rock outcrops. In addition, there are a number of fens and extensive areas of drumlins, especially in the north and west. But for the hedgerows, 'cloddiau' hedge banks and occasional sheltered copses and areas of scrub, the area has an open, rolling and windswept character. It is the least wooded lowland landscape in Wales.

The interior is rich in archaeology, as well as in tales and traditions. Strong elements of the Medieval landscape survive, in the form of remote churches and place-names, though the clearest imprint on the area's landscape occurred in the 19th century, with the construction of Thomas Telford's London to Holyhead post road, the Chester to Holyhead railway and the substantial estate-sponsored courtyard farm settlements, many of which are now falling into disrepair.

Although generally rural, the county town of Llangefni has expanded with new housing and industrial estates during the C20th, which are visible from surrounding countryside. The rural area has not been subject to the level of tourism and recreation activities that affect the adjacent coastal area. However, two large reservoirs have been built, and more recently a completely new dual carriageway route has opened across the area.

PA	Wind or Solar		Area	Location	Main NLCAs		
2	S		3266	Llŷn	5	3	

Summary description **NLCA 5 Tremadoc Bay**

[Three-quarters of PA2 but small section of NLCA5]

This is the northern crook of Cardigan Bay, a lowland coastal region of exceptional interest and scenic beauty. It forms the land between the sea and the mountains. To the east of Porthmadog there are extensive sandy estuaries with salt marsh, to the south there are miles of near-continuous and sometimes remote, dune-backed sandy beaches, whilst to the west lies a notably more extensive agricultural hinterland.

The area contrasts dramatically with the adjacent and enclosing mountain backdrop of northern Llŷn and Snowdonia. The Moelwyn peaks, Cnicht, the Rhinogydd Yr Eifl and even Snowdon stand out in views. By Porthmadog, the smaller but rugged outlying peak of Moel-y-gest rises dramatically out from this area. To the south of Porthmadog, the sea and mountains constrain the width of the area, ultimately meeting just south of Fairbourne.

The area contains many villages and generally retains a rural, agricultural character, except in and around the towns of Barmouth, Porthmadog and Pwllheli. Ancient coastal churches and great castles overlook the shore, being reminders both of how important the sea was for travel and of the strategic importance of this region. This is echoed in the link drawn in the Mabinogion tales, between Harlech and Ireland, while in later times, the Medieval settlements at Pwllheli, Criccieth, Harlech and Barmouth were all revitalised with the growth of tourism in the 19th century. Around Traeth Mawr and Traeth Bach, where the rivers Glaslyn and Dwyrdd flow into the bay, the remarkable settlements of Tremadoc and Porthmadog grew up, built around William Madocks's sea-defence works. Porthmadog became one of the great slate ports of Wales, famous for the 'western ocean yachts', the distinctive schooners that carried Blaenau Ffestiniog slate all over the world. It is also famous for the narrow-gauge railway that transported the slates on the first leg of their journey from the mountain mines, and which in the 1870s brought engineers from Russia and America to admire and emulate.

The fantasy Italianate village of Portmerion is also located here. Parts of the area along the Ardudwy coast are within the Snowdonia National Park, while Harlech Castle is a World Heritage Site. The area remains very popular for tourism today, with beaches, water sports, castles and built heritage, the railways, and the mountains combining with a strong linguistic heritage to provide a very distinct Welsh experience.

Summary description **NLCA 3 Arfon**

[Northern tip of PA2 and peripheral part of NLCA3]

unique environments of the great slate quarries, whose working faces and tips Arfon is literally the land which is ar-fon, 'against Anglesey', being the lowland area bounded on the one side by the Menai Strait and on the other by the Snowdonia foothills and the adjacent glaciated valleys that open into it. Extending from Penmaen-bach Point in the north east to Bryncir in the south, it includes the Anglo-Norman boroughs of Caernarfon (with its World Heritage Site castle and town walls) and the cathedral and university city of Bangor. This coastal plateau area also includes the 19th century neo-Norman Penrhyn Castle, which dominates the view and whose estate extends for many miles around, as well as the less apparent, gentry houses and parklands at Faenol (now an internationally-recognised concert venue) and Glynllifon.

As well as the dwellings of the once-wealthy and powerful, this is also pre-eminently the landscape of the Welsh gwerin, the industrious, progressive and cultured population of the farm, the small-holding, the cottage and the quarry. Their way of life, brought into being by the tremendous industrial slate quarrying workings of the late 18th and the 19th centuries, has far from vanished, and the Welsh language remains particularly strong. The landscape of the gwerin is everywhere, in the form of settlements, chapels, field-boundaries and in the dominate the Ogwen and Nantlle valleys and the Llanberis-Llanddeiniolen area. The time depth of the area is also evident, in an exceptionally rich legacy of earlier archaeology, and in the rich traditions of myth and legend.

PA	Wind or Solar	Area	Location	Main NLCAs		
3	W+S	14733	North Denbighshire	9	8	

Summary description **NLCA 9 Rhos**

[Dominates PA3 and is half of NLCA9]

Comparatively little known by tourists, this is nevertheless a subtly appealing and attractive rural landscape of rolling and undulating countryside. It is sparsely settled, but is traversed by a network of narrow rural lanes and interspersed only occasionally with compact, nucleated villages of stone, slate and white-washed render, or by valley-floor settlement such as Llanfair Talhaiarn and Llangernyw. Much of the area has a character verging on upland, yet the Rhos Hills include some lowland valleys. Historically the area nurtured some important writers and poets, such as Twm o'r Nant, the poet and writer of interludes, and the erratic genius Robert Roberts 'Sgolor Mawr'. Within this area lived the first attested Welsh man, in a cave at Pontnewydd in the Lower Elwy Valley, around 225,000 years ago. The yew tree in Llangernyw churchyard is one of the oldest living things in the world. This area remains strongly Welsh in speech.

Summary Description **NLCA 8 North Wales Coast**

[Northern edge of PA3 and small section of NLCA8]

Limestone hills back the northern coastline and hinterland for much of its length between the Great Orme and Point of Ayr. Their steep sides run close to the coast in the western half, where the development of seaside resorts and main transport links have squeezed into the limited available flat land, and started to spread up some hillsides. The hills run back from the coast in the central section, allowing the broad Vale of Clwyd to reach the sea, flanked to the east by the distinctive line of the Clwydian Range of hills, and finally issuing its river between Rhyl and Towyn. Much of the coastal strip has been developed for tourism, from planned Victorian seaside resorts, notably Llandudno, Colwyn Bay and Rhyl, through country hotels and sanatoria, to more recent and less formal sea-front developments, holiday camps and caravan parks. Traditionally this was where the folk of the north west of England took their holiday, and although the nature of holidays has changed, the area is still known for its seaside holiday destinations and some, notably Llandudno and Colwyn Bay, appear to be surviving and adapting accordingly.

Inland are the estates and wooded parklands of Bodysgallen, Gloddaeth, Bodelwyddan, Kinmel, Gwyrch Castle and Bodrhyddan. Far older are the landscapes of the Great Orme, a focus of settlement for millennia, with evidence for occupation extending back to the Upper Palaeolithic (10,000BC+) and where extensive underground, Bronze Age copper workings were discovered and opened as a visitor attraction.

PA	Wind or Solar	Area	Location	Main NLCAs		
4	S	2643	Brymbo	12		

Summary description **NLCA 12 Clwydian Range**

[Almost the whole of PA4 but a peripheral part of NLCA12]

This extensive upland area forms the broad ridge between the Vales of Clwyd and Llangollen, and the western (Deeside) part of the Cheshire plain. Extending from Gronant in the north to Acerfair and Gwyddelwern in the south, it includes a number of distinct areas of high ground that encompasses the Clwydian Range core (Moel Famau, Moel Llys y Coed and Moel Arthur), Llantysilio Mountain (Moel y Gamelin, Moel Morfydd, Moel y Faen and Moel y Gaer), Ruabon Mountain and Cynr y Brain, and Halkyn Mountain / Moel y Gaer).

This area is remarkable for the spectacular limestone outcrops at Creigiau Eglwyseg, above the Dee valley between Trevor and Craig y Cythraul, and for the great string of Iron Age hillforts topping the summits of the Clwydian Range, itself an AONB. The mineral wealth of the area has been exploited since early times; notably lead and zinc at Holywell Common and Halkyn Mountain, and coal in the east, where the area includes the upper parts of the industrial landscapes above Brymbo and Wrexham. The area is culturally distinguished by its mix of English and Welsh cultural associations, reflecting the historical interface between predominantly Welsh influences to the west and English to the east.

PA	Wind or Solar	Area	Location	Main NLCAs		
5	W+S	29381	Mid Montgomeryshire	21	17	

Summary Description **NLCA 21 Cambrian Mountains**

[Core of PA5 but NE section only of NLCA21]

The Cambrian Mountains form an extensive upland plateau, being an inland spine that divides western and eastern river catchments and forms one of the most extensive and tranquil areas of Southern Britain. The rivers Wye, Severn and Tywi emerge from this area, amongst others. Deep valleys and glacial features are abundant, including a number of 'U' shaped valleys, lakes and moraines. Peat bogs, pools open moorland and areas of extensive coniferous forestry collectively cover much of the area, except in the margins and deeper valleys where lush green fields are sheltered by thick hedges. There are also a number of major reservoirs, whose shapes meander sinuously with the many changes in topography. It is a windswept, remote and sparsely populated area with very few settlements. The area's mineral wealth has been exploited, with remains still visible at a few locations. Few roads cross from east to west, and the cultural character between eastern and western fringes is quite different. Tourism and marketing the area as a brand have not distracted from the predominantly undeveloped character. However the abundance in some areas of reservoirs, forestry and wind farms, together with the legacy land cover from extensive plateau sheep rearing, reminds us of the significant effects of human activity on the overall character of the area.

Summary description **NLCA 17 Montgomeryshire Hills**

[Eastern edges of PA5 and SW segment of NLCA17]

This very rural hill and valley landscape occupies the lower sections of the rivers Tanat, Vyrnwy, Banwy, Cain and Rhiw. Some of the hills are distinctively shaped, occasionally of upland character, or seen as isolated and rising from the general lowland that prevails across the rest of this area. There are many quiet, sylvan river valleys with a locally distinct character, from broad flood plain and meandering river, to steep wooded hillsides and narrow incised valley. There are neatly managed mixed fields in the richer valley bottoms and grazing on higher slopes and moorlands. Hedgerows enclose pastures that often reach right over the tops of the lesser intervening ridges. For a wide area around neighbouring Welshpool, many estate woodlands provide a parkland character in places.

There are a number of villages in the river valleys, and farmsteads on the valley sides. Timber and red brick appear as well as stone on traditional buildings scattered across the landscape especially in the east. The valleys of the larger rivers contain ancient places of settlement. There is much evidence of defence, from the Iron Age hillforts and Roman forts and fortlets, to the intensive proliferation of mottes and stone castles in the border landscapes guarding the entrances to valleys and overlooking the Severn Plain from high vantage points.

The different names of the County in Welsh and English – Sir Drefaldwyn and Montgomeryshire – echo the way in which the eastern part looks towards England while the west preserves much of the historic culture of Wales. This eastern area also displays the influence of English in place names, though there are many with Welsh roots across the border into Shropshire.

PA	Wind or Solar	Area	Location	Main NLCAs		
6	W+S	43092	North Radnorshire	20	27	

Summary description **NLCA 20 Radnorshire Hills**

[Major part of PA6 and one-third of NLCA20]

This is an area of gentle, smooth, upland hills, rising gradually from the border in the east, to the Wye Valley in the west. Similar character extends into England's Clun Forest area, north of Knighton.

Radnorshire's topography is breathtaking and varied, with smooth, rolling, open moors, dissected by steep sided valleys with hedgerow-enclosed pastures by small rivers and streams, and ancient woodlands. Unfenced moorland roads reinforce the sense of openness and being away from the confines and pressures of other, more urbanised landscapes. The varying topography straddles the upland-lowland divide in many places, giving rise to marginal agriculture.

Radnorshire, the old county name that included this area, historically had the lowest population of any of the Welsh counties. Offa's Dyke runs through part of the area and there are a mix of English and Welsh influences to the east in this Marches landscape. It is a very rural, and in the main it is a quiet area, away from the focus of tourism, despite promotion as 'Kilvert Country'.

Summary description **NLCA 27 Vales of Irfon and Ithon**

[Minor part of PA6 but about a quarter of NLCA27]

This is an undulating lowland vale entirely surrounded by upland areas. The main river is the Wye, which enters and leaves the area in much narrower valleys. The tributary rivers, whose lowland vales define the extent of this character area, are the Irfon and Ithon. Woodlands are common, mostly small blocks along the valley sides and along tributaries. This is an enclosed, rolling landscape of pasture and sheep grazing with a patchwork of small fields enclosed by hawthorn hedges and mature hedgerow trees.

This is a rural area with small settlements. The Heart of Wales railway passes through, NE-SW, along the Ithon and Irfon vales, with very local stations. In contrast the roads focus on Builth Wells, the home of the very large and popular annual Royal Welsh Show, the highlight of Welsh agricultural calendars, during which the greater hinterland becomes extremely busy.

The area was known historically for its Spa towns, the three best-known being Builth Wells, Llandindrod Wells and Llanwrtyd Wells. Each has a distinctive character, Llandindrod notably for its elegant red-brick terraced houses and town parks, and in recent decades Llanwrtyd (the smallest of these three) has become popular through outdoor sports including Bog-Snorkelling, Mountain Biking and a 24-mile Man-versus-Horse race.

PA	Wind or Solar	Area	Location	Main NLCAs		
7	W+S	3853	Painscastle	20		

Summary description **NLCA 20 Radnorshire Hills**

[Exclusively within PA7]

This is an area of gentle, smooth, upland hills, rising gradually from the border in the east, to the Wye Valley in the west. Similar character extends into England's Clun Forest area, north of Knighton.

Radnorshire's topography is breathtaking and varied, with smooth, rolling, open moors, dissected by steep sided valleys with hedgerow-enclosed pastures by small rivers and streams, and ancient woodlands. Unfenced moorland roads reinforce the sense of openness and being away from the confines and pressures of other, more urbanised landscapes. The varying topography straddles the upland-lowland divide in many places, giving rise to marginal agriculture.

Radnorshire, the old county name that included this area, historically had the lowest population of any of the Welsh counties. Offa's Dyke runs through part of the area and there are a mix of English and Welsh influences to the east in this Marches landscape. It is a very rural, and in the main it is a quiet area, away from the focus of tourism, despite promotion as 'Kilvert Country'.

PA	Wind or Solar	Area	Location	Main NLCAs		
8*	W+S	19015	Epynt	28	27	

Summary description **NLCA 28 Epynt**

[Vast majority of PA8 and core of NLCA28]

Epynt lies in central eastern Wales and is defined by the windswept, sandstone plateau of Mynydd Epynt, which is intersected by pastoral valleys and fast flowing streams. Much of the plateau is used as a military training range and this has had a number of unusual effects on landscape character. Public access is limited on the unenclosed land whilst some former agricultural landscapes and farmsteads have been abandoned since their compulsory acquisition for military training in the 1940s. Curious new coniferous plantations appear on the otherwise open high moorland plateau.

The southern parts of the plateau are lower in altitude and in consequence have field enclosures running higher up valley sides, and a network of narrow lanes and thick hedgerows. The area is sparsely populated, with the few hamlets located in the lower valleys. There is a pattern of scattered stone farmsteads, rendered and whitewashed in many cases.

There are many sheep in the upland area and many instances of a clear division between the unimproved, open military range, including abandoned fields, and the improved, enclosed field pastures of lower levels that continue to be farmed today. The area has historically been associated with horses and the name 'Epynt' is derived from Brythonic words 'ep' + 'hynt', meaning "horse paths".

Summary description **NLCA 27 Vales of Irfon and Ithon**

[Peripheral extension of PA8 and minor part of NLCA27]

This is an undulating lowland vale entirely surrounded by upland areas. The main river is the Wye, which enters and leaves the area in much narrower valleys. The tributary rivers, whose lowland vales define the extent of this character area, are the Irfon and Ithon. Woodlands are common, mostly small blocks along the valley sides and along tributaries. This is an enclosed, rolling landscape of pasture and sheep grazing with a patchwork of small fields enclosed by hawthorn hedges and mature hedgerow trees.

This is a rural area with small settlements. The Heart of Wales railway passes through, NE-SW, along the Ithon and Irfon vales, with very local stations. In contrast the roads focus on Builth Wells, the home of the very large and popular annual Royal Welsh Show, the highlight of Welsh agricultural calendars, during which the greater hinterland becomes extremely busy.

The area was known historically for its Spa towns, the three best-known being Builth Wells, Llandindrod Wells and Llanwrtyd Wells. Each has a distinctive character, Llandindrod notably for its elegant red-brick terraced houses and town parks, and in recent decades Llanwrtyd (the smallest of these three) has become popular through outdoor sports including Bog-Snorkelling, Mountain Biking and a 24-mile Man-versus-Horse race.

PA	Wind or Solar	Area		Location	Main NLCAs		
9	W+S	33079		Mid Ceredigion	25		

Summary description **NLCA 25 Bro Ceredigion**

[Dominates PA9 and forms northern half of NLCA25]

This is a rolling pastoral landscape of small farms and fields in the heart of the county of Ceredigion. Land rises to over 300m in at the summit of Mynydd Bach, and the area is bounded by the rivers Ystwyth in the north, and Teifi in the south and east. The linear grain of ridged topography effects the alignment of local drainage patterns. Sheep-farming predominates on the hills, which include a number of peat bogs and mires. Sparse and gappy gorse and thorn hedges typify these windswept upland areas. There is a mosaic of small improved fields, bounded by species-rich hedges on the better soils in valleys, with areas of wet grassland, rush-infested grassland and rhos pastures on the wetter land.

The settlement pattern is one of scattered hamlets and isolated dwellings, with some loose-knit villages. Buildings are typically simple stone cottages, often whitewashed, with slate roofs, though there is some earth-walling and use of thatch as well as of corrugated iron, a vernacular material in this part of the world. However, there are also a number of more recent, 'suburban' style houses and bungalows and some large farms with modern outbuildings, often sheltered by coniferous shelter belts.

The area is very rural with surviving elements of a traditional way of life and much spoken Welsh. Marginal land played its part in the poverty of the C19th, with the area being a place of emigration. Yet there are also a number of important gentrified parks and designed landscapes in this area. In contrast today, a modern communication mast at Mynydd Bach stands out against its wild and windswept landscape, while the wind farm at Tefenter occupies its northern summits.

PA	Wind or Solar	Area	Location	Main NLCAs		
10	W+S	17935	West Ceredigion	25		

Summary description **NLCA 25 Bro Ceredigion**

[Dominates PA10 and forms south-western section of NLCA25]

This is a rolling pastoral landscape of small farms and fields in the heart of the county of Ceredigion. Land rises to over 300m in at the summit of Mynydd Bach, and the area is bounded by the rivers Ystwyth in the north, and Teifi in the south and east. The linear grain of ridged topography effects the alignment of local drainage patterns. Sheep-farming predominates on the hills, which include a number of peat bogs and mires. Sparse and gappy gorse and thorn hedges typify these windswept upland areas. There is a mosaic of small improved fields, bounded by species-rich hedges on the better soils in valleys, with areas of wet grassland, rush-infested grassland and rhos pastures on the wetter land.

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The area is very rural with surviving elements of a traditional way of life and much spoken Welsh. Marginal land played its part in the poverty of the C19th, with the area being a place of emigration. Yet there are also a number of important gentrified parks and designed landscapes in this area. In contrast today, a modern communication mast at Mynydd Bach stands out against its wild and windswept landscape, while the wind farm at Tefenter occupies its northern summits.

PA	Wind or Solar	Area	Location	Main NLCAs		
11	W+S	73223	West Carmarthenshire	42	44	21

Summary description **NLCA 42 Pembroke and Carmarthen Foothills**

[Forms core of PA11 and includes most of NLCA42]

These foothills and valleys span the gap between the more widely known and extensive Cambrian Mountains and Preseli Hills. There are no major towns in the area and the main routes are 'through' rather than 'to' this area. The area has a quiet beauty of its own. It has gentle rolling uplands and sheltered wooded valleys with regular pasture fields grazed by cattle and sheep, hamlets and a few villages, linked by a network of narrow winding rural roads. There are many high, mature hedgerows and regular-shaped medium sized fields with a mix of improved pasture and marginal upland.

The area is essentially a plateau that drains tributaries to the Teifi in the north to the Tywi and Taf in the south. One of the most distinctive characteristics is that numerous streams have become deeply incised in narrow, wooded valleys, dividing the farmlands that lie between. Within the plateau, smaller individual hills rise, notably Frenni fawr (395m), Moelfre (335m) and Mynydd Figyn (325m).

Summary Description **NLCA 44 Taf and Cleddau Vales**

[Southern sector of PA11 and northern edge of NLCA44]

The area is a broad, undulating, agricultural, lowland, generally sloping southwards and forming the rural hinterland to the settlements and more populous areas that lie outside its confines to the south-west and south-east. It is dissected by numerous small, deeply cut minor river valleys, often with wooded sides. It is crossed by main road and rail routes, notably the South Wales to Ireland routes to nearby Fishguard. The area forms the inland setting to the more established visitor destinations in Pembrokeshire Coast National Park. The area is predominantly enclosed with well kept, mature hedgerows and narrow lanes.

A historic cultural division, the Landsker Line, runs across part of the area. To its north are Welsh place names and traditions amidst a more marginal farmland, while to the south names are Anglicised, amidst a gentler, improved farmland of dairying, root crop and cereal production.

Summary Description **NLCA 21 Cambrian Mountains**

[Northern portion of PA11 and terminal edge of NLCA21]

The Cambrian Mountains form an extensive upland plateau, being an inland spine that divides western and eastern river catchments and forms one of the most extensive and tranquil areas of Southern Britain. The rivers Wye, Severn and Tywi emerge from this area, amongst others. Deep valleys and glacial features are abundant, including a number of 'U' shaped valleys, lakes and moraines. Peat bogs, pools open moorland and areas of extensive coniferous forestry collectively cover much of the area, except in the margins and deeper valleys where lush green fields are sheltered by thick hedges. There are also a number of major reservoirs, whose shapes meander sinuously with the many changes in topography. It is a windswept, remote and sparsely populated area with very few settlements. The area's mineral wealth has been exploited, with remains still visible at a few locations. Few roads cross from east to west, and the cultural character between eastern and western fringes is quite different. Tourism and marketing the area as a brand have not distracted from the predominantly undeveloped character. However the abundance in some areas of reservoirs, forestry and wind farms, together with the legacy land cover from extensive plateau sheep rearing, reminds us of the significant effects of human activity on the overall character of the area.

PA	Wind or Solar	Area	Location	Main NLCAs		
12	S	20522	Mid Preseli	44		

Summary Description **NLCA 44 Taf and Cleddau Vales**

[Almost all of PA12 and within more exposed western sector of NLCA44]

The area is a broad, undulating, agricultural, lowland, generally sloping southwards and forming the rural hinterland to the settlements and more populous areas that lie outside its confines to the south-west and south-east. It is dissected by numerous small, deeply cut minor river valleys, often with wooded sides. It is crossed by main road and rail routes, notably the South Wales to Ireland routes to nearby Fishguard. The area forms the inland setting to the more established visitor destinations in Pembrokeshire Coast National Park. The area is predominantly enclosed with well kept, mature hedgerows and narrow lanes.

A historic cultural division, the Landsker Line, runs across part of the area. To its north are Welsh place names and traditions amidst a more marginal farmland, while to the south names are Anglicised, amidst a gentler, improved farmland of dairying, root crop and cereal production.

PA	Wind or Solar	Area	Location	Main NLCAs		
13	S	23355	East Carmarthenshire	33		

Summary description **NLCA 33 Gwendraeth Vales**

[Almost all of PA13 and entire southern part of NLCA33]

This is an area of rolling hills, ridges and minor valleys, comprising the area between the coastal and valley parts of the Tywi, the South Wales Valleys and the Black Mountain part of the Brecon Beacons. Despite its pear-shape, the area is unified through its geology. That part running north-east is within the Brecon Beacons National Park and is quiet and rural compared to the more heavily settled main area. The main area has been heavily mined for coal and quarried for limestone. In consequence, this part of the area has developed a distinctive linear or ribbon pattern of settlement along roads. Today, modern residential and industrial estate development breaks the ribbon pattern but nevertheless focuses new development around existing settlements and road crossings.

The countryside setting contrasts entirely, being a complex network of small geometric fields surrounded by lush, high hedgerows and small copses. Seasonally waterlogged soils in the valleys support rushy grazing of poor agricultural quality while well drained coarse loamy and sandy soils across much of the character area are used for sheep and dairy pasture. Significant areas have now been reclaimed from former quarries and mines and the somewhat simpler and less mature restoration field layouts can be picked out, despite the inclusion of new woodland planting belts. The spectacular limestone crag and castle of Carreg Cennen is a landmark feature in the middle area, just into the National Park.

PA		Wind or Solar	Area	Location	Main NLCAs		
14		W+S	93598	Glamorgan	37	36	

Summary Description **NLCA 37 South Wales Valleys**

[The vast majority of PA14 and all but some eastern parts of NLCA37]

Many deep, urbanised valleys dissect an extensive upland area. Combined with industrial heritage and the distinct identity of its people, the South Wales Valleys provide some of Wales' most widely known and iconic national images.

Extensive ribbon development fills many valley bottoms and lower slopes. Their urban and industrial character is juxtaposed with dramatic upland settings with steep hillsides, open moors or forests. Networks of railways and roads connect valley settlements. Topography constrains passage between valleys, and there are only a limited number of high passes between valleys. The noise and business of many valleys contrast with the relatively remote and wild qualities of adjacent hill plateaux.

Underlying geology and mineral deposits provided the resources that fuelled a rapid spread of industrial development in the C19th. Once rail transport became possible, new coal, steel and iron industries created an extensive infrastructure of large buildings, furnaces, towers, chimneys, viaducts, spoil heaps and levels. Housing for workers resulted in the extensive and iconic rows of terraced houses that run along hillsides. Their needs in turn brought chapels, shops, schools and other facilities to create new settlements with an urban character. The way of life and harsh environment resulted in the image of a tough, rugby playing and radically minded society. But the decline of industries in the late C20th resulted in the closure, removal, abandonment or redevelopment of many former industrial sites. These changes continue today, as do the consequential social changes to the way of life and community identity. The area is now seen as part of a wider, increasingly post-industrial, 'city region', the largest in Wales. A new iconic image is at times unclear, but heritage-based activities set within a softer, greener environment are emerging as part of this.

While greenness is returning to some former industrial landscapes many of the new woodlands are coniferous. Waterways are slowly welcoming back fish, and mammals such as otters. The importance of wildlife conservation being undertaken hand-in-hand with economic regeneration is being recognised as one of the keys to the sustained revitalisation of this most iconic Welsh 'bro', in the Heads of the Valleys and Valleys Regional Park initiatives.

Summary description **NLCA 36 Vale of Glamorgan**

[A southern extension of PA14 and core of NLCA35]

The Vale is a distinctive, gentle lowland landscape, largely comprising a rolling limestone plateau. Glacial till contributes to its undulating topography. A variety of rural land uses characterise the area, reinforced by thick hedgerows, frequent small woodlands and trees, which create a sense of enclosure and intimacy. This is despite the proximity to large towns such as greater Cardiff, Barry and Bridgend, and a number of large built features within the Vale.

The landscape terminates abruptly at the heritage coast with vertical cliffs. There are a few sandy beaches, as well as shingle, but many images depict the exposed geology of the inter-tidal area, including bedding and pavements. There are long distance cliff top views towards Somerset. A notable feature affecting part of the coast is the large, modern, noisy, Aberthaw Power Station.

In the centre of the Vale, compact and historic settlements reinforce the area's distinctive sense of place, but with limited modern development. Yet the area has attracted many professionals, who commute to Cardiff and Bridgend, adding to the more prosperous character of places like Cowbridge and Llanblethian.

The area's historic character was shaped by Anglo-Norman influences. Norman castles and medieval villages centred on churches are key features. The registered landscape of Llancarfan is astoundingly beautiful as well as being a relatively unspoiled gem of historical evolution. All this is despite the relatively close proximity to nearby large towns.

PA	Wind or Solar	Area	Location	Main NLCAs		
15	W+S	20486	Hiraethog	10		

Summary description **NLCA 10 Denbigh Moors**

[Entirety of PA15 and southern half NLCA 10]

A desolate but scenically attractive landscape, comprising a gently undulating upland moorland plateau in central North Wales, situated between Snowdonia to the west and the Vale of Clwyd to the east. The area has been partially afforested, but elsewhere there are extensive tracts of blanket bog, heather moorland and a significant variety of archaeological sites dating from the prehistoric period onwards.

Though it has been sparsely inhabited in recorded history, there has been much human activity – farming, forestry, hunting and the building and maintenance of the extensive water-catchment systems and reservoirs based on the headwaters of the Aled, which flow into the Elwy and then into the Clwyd, and on the Alwen and Brenig, which flow into the Dee. The area is popular for outdoor activities, many of which are focused on the Brenig Reservoir and Visitor Centre, while an archaeological trail has been established at north end of the reservoir. Wind-turbines developments have also been recently established here.

Thomas Telford's post road, the modern A5, runs through the area, and reaches its second highest point between London and Holyhead near Cerrigydrudion. It divides the moorland afforested landscape to the north-east (the area traditionally ascribed as being 'Mynydd Hiraethog' in Welsh) from the gentler farmlands around Llangwm. Hugh Evans' classic Cwm Eithin (translated into English as Gorse Glen) vividly describes life and farming customs in this area in the mid-19th century.

5 The Rational Solution

If the target is to be secured by the use of marine technology – as advocated by the Welsh National Marine Plan (WNMP) – the following illustrative example should be borne in mind, although there are obviously many variants possible including other much larger-scale solutions as described in EGW2018, WNMP and elsewhere.

The following text is merely intended to outline a single, technically feasible, way of how to reach the three variants of the 70% target described earlier in this report. Individual marine schemes using the technologies described in EGW2018 and WNMP could surpass this example.

At November 2019 the largest and most powerful commercially available offshore wind turbine is GE's Haliade-X.

<https://www.ge.com/renewableenergy/wind-energy/offshore-wind/haliade-x-offshore-turbine>

With a 150m tower, and a 110m blade radius it is only 10m taller to its tip (260m) than the largest size canvassed by Arup for use in the onshore PAs. It is designed for installation far away from coasts and compared to the proposals for the PAs would create minimal visual, ecological and noise impacts when subjected to the rigorous environmental impact assessment that such a machine would impel.

The size and location of the turbine groups would depend on a number of factors and could range from one mega windfarm to several smaller groups. Typical distances from shore are likely to be at least 30-50km.

2030 Target:	Offshore wind turbines				Total output
	MW each	Number	MW total	Output per turbine @63% CF	
70% of current output 3TWh	12	45	540	67 GWh pa	2.98 TWh
70% of forecast output 6TWh	12	90	1080	67 GWh pa	5.96 TWh
Arup indicative output 9TWh	12	135	1620	67 GWh pa	8.94 TWh

5 Conclusion – what should the Welsh Government now do?

On 7th November 2019 CPRW wrote an urgent interim letter to the three Ministers with overview or direct responsibility for the NDF.

Its conclusions are borne out by the detail contained in this report:

- a) the RE assessment does not set out a clear statement of current and projected electricity generation and consumption, ignores the fact that Wales is a net exporter of electricity, and fails to quantify the level of additional output required to reach the target of 70% by 2030;
- b) it considers only onshore wind and solar technologies as contributors and ignores the role of other existing and viable sources over the target period, notably the [then] draft Marine Plan's commitment to expand offshore wind;
- c) it is full of fundamental errors in defining the 15 wind and solar Priority Areas and fails to describe or assess potential impacts of its proposals upon them;
- d) although incredibly complex, it is not a fully-fledged document and has emerged into the NDF process without prior consultation or public debate;
- e) in its present form it is not therefore a Framework document conforming to the aims and scope of the NDF as a whole - and is **unfit for that purpose**.

There are other consequential issues. In CPRW's opinion the Welsh Government should:

... Take steps to examine why and how this section of the NDF has emerged in a form that contradicts declared policies and known facts;

... Consider the impression given that this has resulted from deep 'fault-lines' which have prevented a proper dialogue between different sectors;

... Consider the cost of this flawed exercise, and ask where were the supervising and mentoring facilities available to the Welsh Government;;

... Consider that without a radical review, how much more difficult it now is to arrive at a rational and effective solution to the climate emergency.



CAMPAIGN FOR THE PROTECTION OF RURAL WALES

APPENDIX 1. Application of Constraints: Arup vs Aecom methodology

AECOM STEPS	AECOM TOOLKIT ¹ WIND (POWYS LDP REA 2017)	AECOM TOOLKIT ¹ SOLAR (POWYS LDP REA 2017)	ARUP fixed/variable constraints applied to identify unrefined Priority Areas - according to Tables 2 & 3 pp10-11 ARUP 2 ¹ - BUT see NOTES:	NOTES ON ARUP METHODOLOGY
				<p><u>We do not know if all fixed constraints have been applied, but clearly ancient woodlands are not excluded from PAs despite inclusion as 'fixed constraint in ARUP 2¹ Table 2.</u></p> <p>Table 3 indicates a range of 'variable' constraints which ARUP states have been applied in identifying 'unrefined' PAs: <u>most of these variable constraints have not been applied in identifying PAs, and are not considered in refinement process.</u></p> <p><u>This is because, while GIS mapping identified areas constrained by variable constraints, these areas were not excluded from 'unrefined PAs'</u></p> <p>If dNDF proceeds, Policy 10 confers reduced, if not removed, protection for all these features.</p>
Step 1: Typology	Wind turbine: 2MW/80m hub height/80m blade-sweep diameter: capacity factor 27% ; 1 turbine per 0.5kmsq	Solar: Rated output: 5MW Area of Land Required: circa 0.12km ² Capacity factor 10%	Wind turbines up to 250m tip height and solar panels. Range of options presented ARUP 1 Appx A pp14-16. Wind C.F 27-38% , solar 22% . No further info given.	Tables 4 – 6 ARUP 1 Appx A should set out turbine tip-heights, wind capacity factor assumptions, assumed solar panel efficiency. Output calculations not transparent without this information.
Acknowledged some potential constraints ignored	Landowner willingness, political will, planning delay. <i>But post REA talks held with MOD re SENTA training ground.</i>	Landowner willingness, political will, planning delay. <i>But post REA talks held with MOD re SENTA training ground.</i>	See Errors doc ARUP 11 & 12	PAs not informed by local resident/environmental NGO input, no investigation of landowner willingness e.g. National Trust re landholding Begwns in PA 7, MOD re PA 8.
Step 2: requirements of technology	Wind speed < 6.0 m/s	Slope and topology: 0-3° + 3-15° if SW,S,SE	<u>Not investigated.</u>	PAs do not correlate with wind speed map in ARUP 1 p80. Land slope & orientation not mapped. ARUP 1 recommendations for refinement not taken up.(p25 ARUP 1)
Step 3: environmental & heritage constraints	National Park + 7km buffer	National Park + 3.5km buffer	National Park (fixed) extent only - both wind and solar <u>National Park (extent only) excluded</u>	Policy 10 assumes acceptance of landscape change. Conflict with statutory purposes of NPs. Inconsistent, minimal buffering in 'refinement' process. See Errors doc ARUP 1 & 2 (5)
	AONB + 7km buffer	AONB + 3.5km buffer	AONB (fixed) extent only – both <u>AONB (extent only) excluded</u>	Policy 10 assumes acceptance of landscape change. Conflict with statutory purposes of AONBs. Inconsistent, minimal buffering in 'refinement' process.
			Landmap V&S layer high and outstanding (variable) – both	Landmap V&S High has <u>not</u> been excluded. Only PA 2 does NOT contain Landmap V&S High landscapes. Policy 10 removes landscape protection. SEE MAP 1 BELOW.
			Open Access (variable) - both	Open access land is <u>not</u> excluded. PA14 in particular contains large areas of Open Access. Policy 10 reduces protection. SEE MAP 2 BELOW.
			RIGS (variable) – both	RIGS are <u>not</u> all excluded: e.g. Llandegley Rocks RIGS Grid ref SO 1275 6135 is within PA 6. Policy 10 reduces protection.

			Fforest Fawr Geopark (variable) – both <u>Fforest Fawr Geopark excluded</u>	<i>Already excluded - inside Brecon Beacons National Park <u>BUT</u> Wales's 2nd Geopark Geo Mon Anglesey (720 kmsq) is not listed as a constraint, not excluded.</i>
			Unesco biosphere (variable) - both	<i>PA 5 clips the western edge of the Dyfi biosphere. <u>Not</u> excluded.</i>
			World Heritage sites (fixed) – both <u>World heritage sites excluded</u>	
			Conservation areas (fixed) - both	<i>Conservation Areas <u>not</u> excluded e.g. Rhayader Conservation area inside PA 6.</i>
	National Nature Reserve extent only	National Nature Reserve extent only	National Nature Reserve (variable) – both	<i>NNRs are <u>not</u> excluded: e.g. Rhosgoch NNR is within PA 7. Policy 10 reduces protection.</i>
	Ramsar sites extent only	Ramsar sites extent only	Ramsar sites extent only (fixed) - both	<i>Ramsar sites <u>not</u> all excluded. Parts of Corsydd Môn a Llyn / Anglesey and Llyn Fens included in PA1</i>
	SAC + Candidate SAC extent only	SAC + Candidate SAC extent only	SAC + Candidate SAC extent only (fixed) – both	<i>SACs are <u>not</u> all excluded – e.g. Rhosgoch SAC is within PA 7, Mynydd Epynt SACs in PA8 Many parts of River Wye SAC lies within PAs. Policy 10 reduces protection.</i>
	SPA + foraging buffer	SPA + foraging buffer	SPA extent only (fixed) – both <u>SPAs (extent only) are excluded</u>	<i>No foraging buffers. Error(s) in buffering maps - impacts of PAs on SPAs misrepresented in HRA. Policy 10 reduces protection. See Errors doc. Habitats Regulations Assessment (1)</i>
	SSSIs extent only	SSSIs extent only	SSSIs (variable) - both	<i>SSSIs <u>not</u> excluded e.g. few km from Crossgates are 25Acre Wood SSSI, Coed Aberdulas SSSI, Cae Cwm Rochas SSSI, Ithon Valley Wodlands SSSI and Cae Llwyn SSSI, just in one small part of PA6. Policy 10 reduces protection.</i>
	Broadleaf Woodland (National Forest Inventory) extent only		Woodland (various assumed excluding ancient woodland) (variable) - both	<i>Woodland <u>not</u> excluded - Policy 10 reduces protection.</i>
	Ancient Woodlands/'woodlands' (undefined) extent only	Ancient Woodlands/'woodlands' (undefined) extent only	Ancient woodland (fixed) - both	<i>Ancient woodland has <u>not</u> been excluded – Policy 10 reduces protection. See Errors doc. ARUP 1 & s (10)</i>
	Local Nature Reserves extent only	Local Nature Reserves extent only	<u>Not considered.</u>	<i>Wildlife Trust reserves are not a constraint, not excluded. Policy 10 reduces protection</i>
	Registered Historic Landscape extent only	Registered Historic Landscape extent only	Historic Landscape (variable) – both <u>Registered historic landscapes excluded</u>	<i>Because Policy 10 reduces protections a buffer for visual impacts would have been appropriate.</i>
	SAMs extent only	SAMs extent only	<u>Not considered.</u>	<i>Policy 10 and PPW10 reduce protections.</i>
	Listed Buildings (CADW) 500m	Listed Buildings (CADW) 500m	<u>Not considered.</u>	
	Watercourses: rivers, canals, lakes (OS Strategi) extent only	Watercourses extent only	All inland water (variable) - wind Inland waters excluding rivers and canals (variable) - solar	<i>Watercourses are <u>not</u> excluded from PAs</i>
	Thick peat	Thick peat	Peat deeper than 45cm (variable) - both	<i>PAs include 'areas of varying opportunity', i.e. containing variable constraints, so it is unlikely that deep peat has been excluded.</i>
		Agricultural land Grades 1-4	Agricultural land Grades 1 and 2 (variable) - both	<i>Not compliant with Government Policy. See Errors doc. ARUP 1 & 2 (1)</i>

Step 4: transport infrastructure constraints	motorways/primary roads/railways topple + 50m = 170m	Transport infrastructure major and minor extent only	<u>Not considered.</u>	
	A roads/B roads topple + 10% = 132m	" "	<u>Not considered.</u>	
Step 5: dwellings and noise buffer	Buildings (as defined by LLPG) (noise buffer) 500m	Buildings (construction noise) 500m	<u>Not considered.</u>	
			Urban regions (fixed) - both	Undefined and unexplained – why aren't urban and urban fringe included subject to caveats. Potential for RE e.g. rooftop solar? Brownfield development?
Step 6: Aviation & radar constraints	Restricted airspace - including UK Aerodrome traffic zones and instant approach procedures outside controlled airspace	Controlled airspace (including military aircraft, low flying zones, or tactical training areas)	<u>Not considered.</u>	The omission of all air flight constraints except the physical extent of airports and runways, and NATS below, is a basic omission. Wind turbines and solar can pose significant safety challenges to aviation, both commercial and light aircraft. This is another fundamental flaw in the mapping exercise undertaken to determine PAs.
		UK Aerodrome Traffic Zones	<u>Not considered.</u>	As above
		Military Aerodrome Traffic Zones	<u>Not considered.</u>	As above
		Aerodromes with instant approach procedures outside controlled airspace	<u>Not considered.</u>	As above
		CAA: Welshpool Airport CAA 5km buffer	Airports and runways (fixed) - both	Buffering requirement not observed. Small airfields not excluded: e.g. Lane Farm, Rhosgoch, Powys. This can be addressed at application stage BUT Policy 10 reduces protection.
	MOD Low Flying Tactical Areas	MOD Low Flying Tactical Areas	<u>Not considered.</u>	See Errors doc. ARUP 1 & 2 (13) & (14) re requirement for MOD data.
	SENTA Training Area 10km buffer	SENTA Training Area 3.5km buffer	<u>Not considered.</u>	PA 8 lies entirely within SENTA 10km buffer, as does the southern tip of PA 6. See Errors doc ARUP 1 & s (11) & (12).
	Areas constrained by NATS Aviation & RADAR Safeguarding Zones incl. Military Aerodr. Traffic Zones, High Intensity Transmission Areas extent using 120m safeguarding zone	High Intensity Radio Transmission Areas	NATS Specified Communication Systems (fixed) - both	Insufficient data in ARUP documents, however AECOM treatment suggests buffering is required. No buffering explicitly mentioned.
			NATS navigation Aids and Air Ground Air Communication (variable) - both	As above.
Step 7: prioritise	Land < 0.5kmsq tracks/fire breaks/slivers of land	Land < 12.5Ha insufficient for 5MW Land slivers/firebreaks/tracks	<u>Not considered.</u>	Inclusion of this constraint in AECOM REA results from greater sophistication of GIS mapping and constraint analysis, in comparison to present exercise.

	grid: > 10km from 33/66/132kv	grid: > 10km from 33/66/132kv	<u>Not considered.</u>	<i>See Errors doc ARUP 1 & s (11). ARUP recommend refinement should consider grid access. This was not done.</i>
Step 8:		Followed Step 9 refinement		
Step 9: cumulative	SSAs & all WFs existing/in constr./approved @31.3.17 (incl. outside Powys) 7km buffer	SSAs & all WFs existing (incl. outside Powys which impact on Powys LPA area) extent	<u>Not considered.</u>	<i>See Errors doc ARUP 1 & s (11). ARUP recommend refinement should consider existing wind. This was not done.</i>
		Existing and consented PV farms treated as built 3.5km buffer	<u>Not considered.</u>	<i>See Errors doc ARUP 1 & s (11). ARUP recommend refinement should consider existing solar. This was not done.</i>
			Allocated major developments (undefined)- unspecified buffer 'based on size attributes' (variable) - both Unrefined' PAs subjected to refinement process conducted by means of conversations between Welsh Government, NRW & ARUP.	<i>Unclear what 'allocated major developments' are, and what buffers may or may not be applied and why</i>
Final steps & conclusion	NO REMAINING WIND LSAs, therefore NO LANDSCAPE SENSITIVITY REFINEMENT	SOALR LSAs IDENTIFIED, LANDSCAPE SENSITIVITY STUDY CONDUCTED TO REFINE LSAs		

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ARUP 1: Welsh Government Assessment of onshore wind and solar energy potential in Wales Stage 1 - Development of Priority Areas for Wind and Solar Energy (March 2019)

ARUP 2: The Welsh Government Assessment of onshore wind and solar energy potential in Wales Stage 2 - Refinement of Priority Areas for Wind and Solar Energy (June 2019)

GLOSSARY:

AONB Area of Outstanding Natural Beauty

CAA Civil Aviation Authority

LANDMAP V&S Landmap Visual & Sensory Layer

LLPG Local Land and Property Gazetteer

MOD Ministry of Defence

NATS National Air Traffic Services

NGO non-governmental organisation

NP National Park

OS Strategi Ordnance Survey Open Data dataset

PA Priority Area

RAMSAR wetlands designated under the Ramsar Convention

REA Renewable Energy Assessment

RIGS Regionally important geological and geomorphological sites

SAC Special Area of Conservation

SAM Scheduled Ancient Monument

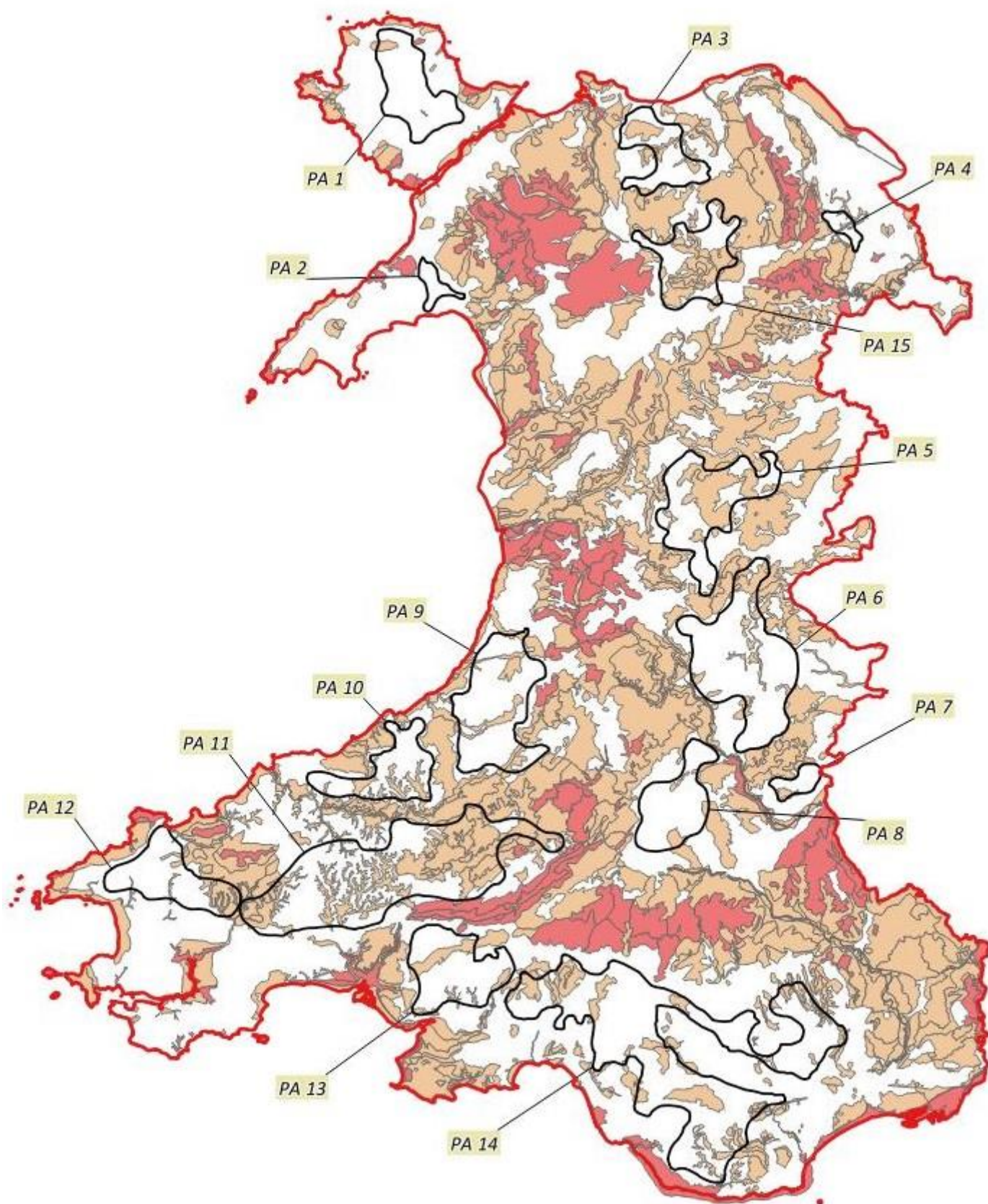
SENTA Sennybridge Training Area

SPA Special Protection Area

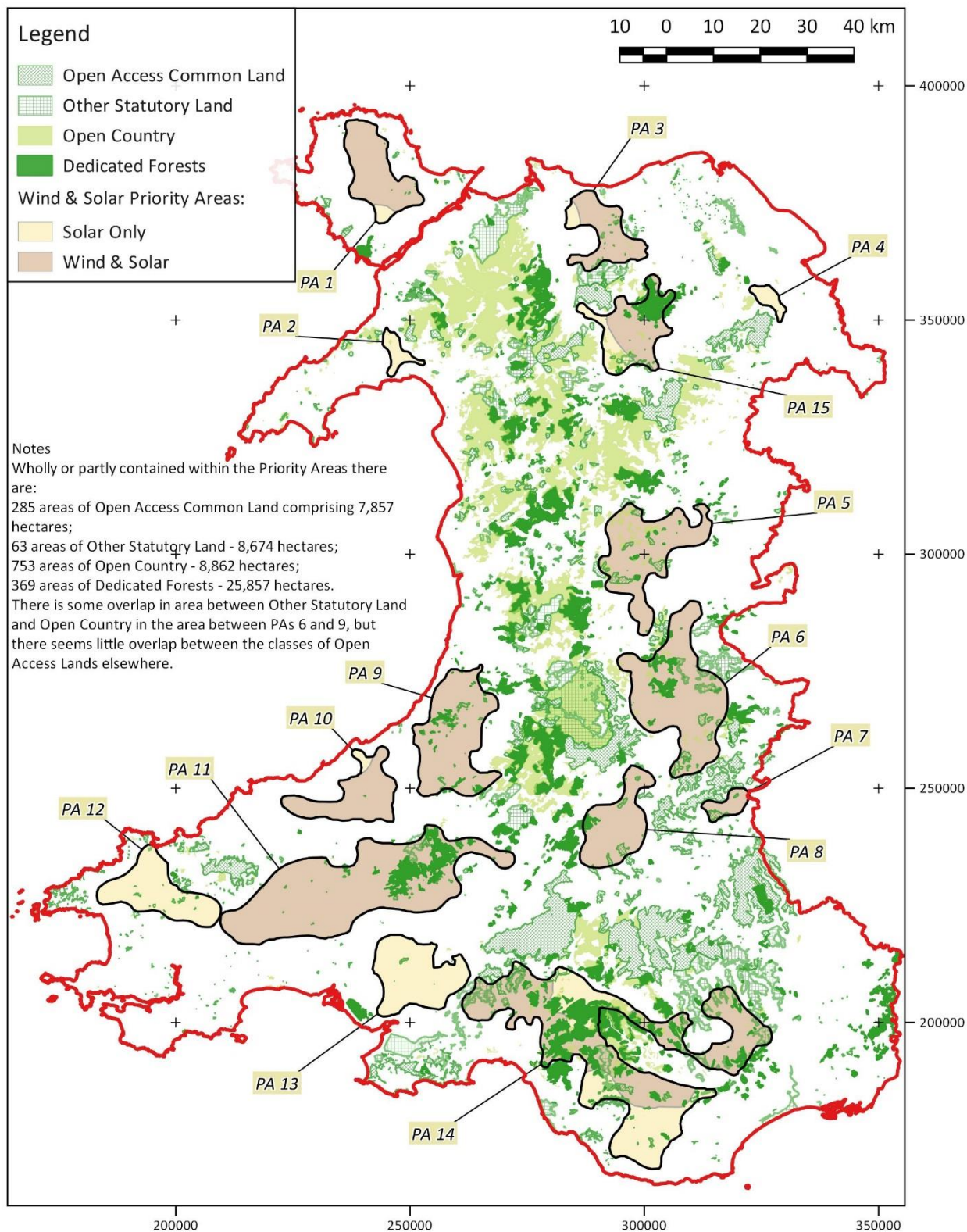
SSSI Site of Special Scientific Interest

SUPPORTING MAPS TO TABLE ABOVE:

Map 1: Priority Areas mapped against Landmap Visual and Sensory High (orange) and Outstanding (red)



Welsh Government National Development Framework: Wind & Solar Priority Areas with Open Access Lands





CAMPAIGN FOR THE PROTECTION OF RURAL WALES

APPENDIX 2. Full Response to HRA ASSESSMENT OF dNDF

(sections 1 & 2 are also entered into the response form)

1. Dating issues in HRA

- 1.1. The handling of HRA documents has been regrettable. The HRA was clearly not ready for consultation with the public. The original HRA documents presented for public consultation were incomplete, partially out-dated and did not include the essential evidence relating the refined Priority Areas (PAs) to Natura 2000/Ramsar sites (NK2/Rs) in the 8 maps now provided in APPENDIX B: Appendix B. The WG changed the documents for this legally required HRA process after the consultation began and without alerting the public. After our complaint, the consultation period was extended by a two-week period reflecting the date of the document change (21/8/19) rather than the later date on which the public were notified of the change (17/10/19).
- 1.2. This is the third Arcadis draft signed off on 1/7/19 of the assessment made on the dNDF dated 15/5/19 later described as “first draft of NDF” (p1). The dNDF for consultation is only dated by the consultation dates (7/8/19 to 1/11/19 - now extended to 15/11/19) so we do not know if the 15/5/19 version was the final dNDF.

2. General

- 2.1. The HRA is defined: “The consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, with respect to the site’s structure and function and its conservation objectives”. With the three conditions (no alternative/IROPI/adequate compensation) governing consent in the case of significant likely effects on an NK2/Rs. The question is of whether it has fulfilled this remit.
- 2.2. The HRA report has a reasonable and clear structure. It describes clear set-back buffers for the site designations although the chough is the only species meriting a species-specific buffer. It sets out HRA requirements and screens the policies providing Appropriate Assessments for the 20 out of 33 Policies which are screened in. It provides a useful Rule of Thumb section. It claims that (p4) “Given the nature of the NDF, it is therefore the lower-tier plans which will include sufficient detail to allow for a meaningful assessment of the potential impacts that such development could have on Natura 2000/Ramsar sites. The HRA at this level of the planning hierarchy is therefore necessarily high-level and precautionary.”
- 2.3. It does not address the in-combination effects within Policy 10 and between policies within the NDF because, it claims, without any specific sites, these cannot be assessed for any particular NDF policy however, within Policy 10 at least some in-combination effects of neighbouring PAs in the same buffer zone(s) could be assessed..
- 2.4. It fails to address the in-combination effects between the NDF and other policies, programmes etc. For instance, it says (p17) that since the WNMarineP has been subject to HRA which found there was appropriate lower-tier, plan-level mitigating provision, this together with the wording of the NDF will provide protection to marine environments. We believe that, in as much as there are spatially defined policies in the WNMP, there should have been discussion of the possible in combination effects of a spatially defined policies on land and in marine areas. An example might be discharge of effluent at sea from increased development on land.
- 2.5. With respect to Policy 10, the first criterion of the DTA guidance is that “ a plan making body may only rely on mitigation measures in a lower-tier plan or project” if “the higher-level plan cannot reasonably predict any effect on a European site in a meaningful way”. Policy 10, in particular is a **spatially defined** policy carrying a presumption of planning approval in PAs. Therefore there is a fundamental issue of whether NK2/Rs will in fact receive the same level

of protection **with defined PAs** as they would have done **without defined PAs**. The report fudges this issue. The same applies, if in lesser measure, to some of the place/area specific policies (P17 - P33) .

2.6. The Appropriate Assessments required by law do not discuss what types of mitigation or compensation are available or acceptable should the WG claim IROPI circumstances and the NDF itself confines discussion of specific measures to protect biodiversity interests to Policy 8.

2.7. This is an HRA of the NDF “**and the process by which it was derived**” (APPENDIX B p2). The HRA correctly, emphasises that the **evolution** of the NDF has improved the prospects for NK2/Rs however the evolution of the NDF Policy 10 involved the ARUP distinction between fixed and variable constraints which also governs the entire classification of the **areas of most opportunity** which themselves underlie the delineation of PAs. The implication of including (for instance) peat deposits and fresh water surfaces as variable rather than fixed constraints is not discussed .

2.8. We have already seen the Minister’s decision over Hendy Wind Farm, within the catchment of the Wye SAC, which is only 1 km away, accept an Appropriate Assessment based on generic construction precautions with no site-specific information and no consideration about the presence or migration of species, including white-clawed crayfish, as set out in this HRA.

(p 6) “Finally, whilst a buffer of 5km has been set for SAC habitats, wherever a riverine SAC is downstream of a proposed development, impacts associated with significant mobilization of sediment could extend further than this. This is less due to the fact that sediment is likely to travel further than this, and more because individual fish species associated with these sites can readily occur some distance upstream from the boundary of the designated river (e.g. in undesignated tributaries).”

Furthermore, the Appropriate Assessment considered that Planning Conditions were sufficient protection but the Developer has proceeded without discharge of conditions precedent and no action has been taken.

2.9. The HRA is primarily concerned with the spatially defined Priority Areas in Policy 10. For each screened-in policy apart from Policy 20 Holyhead port the HRA concludes “Consideration of the measures set out above during regional/local planning and during site-specific implementation of the policy, as well as compliance with P8 of the NDF (which it is anticipated will indirectly provide protective buffering for Natura 2000/ Ramsar sites by protecting and enhancing ecosystem services, ecological networks and biodiversity in the wider countryside), should ensure that there will be no adverse effect on the integrity of Natura 2000/ Ramsar sites as a result of implementing this policy”

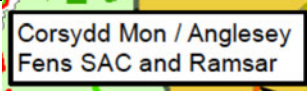
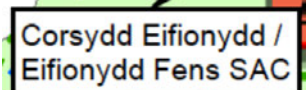
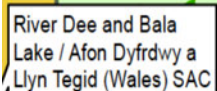
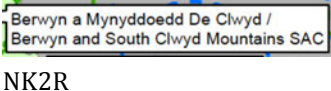
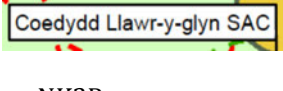



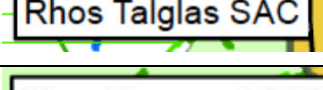
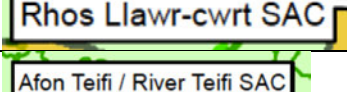
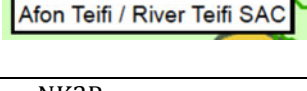
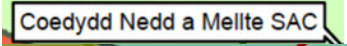
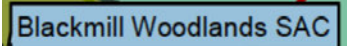
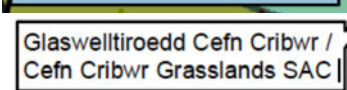

2.10. All the above leave an uncomfortable and serious doubt as to the level of protection which might emerge in practice.

3. HRA and the NDF

3.1. We do not know how much modification of the NDF is planned, or will emerge from this consultation. Arcadis advises (APPENDIX B p2) that the forthcoming EU guidance document on Wildlife Sensitivity Mapping (which they have helped develop) should be referenced in the NDF and ideally taken into account in **subsequent refinement of the PAs**. We argue elsewhere in our dNDF response that Policy 10 is not yet fit for purpose and should undergo revision before a further consultation.

3.2. APPENDIX B p15 says that risk to NK2/Rs has been reduced but not avoided and that buffer zones illustrate that a significant proportion of the area prioritised for renewables development does still lie **sufficiently close** to Natura 2000/ Ramsar sites that impacts could occur. These buffer zones (APPENDIX B –Appendix B Fig.2 Maps x 8) will “therefore be very important for informing the scope of subsequent **local plan**- and/or project-level HRA for future wind and solar farm proposals”.

3.3. This paragraph is economical with the truth because as shown below and acknowledged throughout Table 1 (APPENDIX B pp 6-14) there are NK2/Rs actually **inside** PAs.

PA	Where	how changed	rough description	SACs etc. inside or bordering PAs	
1	Whole Anglesey	all coastal removed	Wind and Solar		multiple sites inside SW
2	Lleyn Peninsula	N and most of S coastal removed	Solar		on N border
3	N Coast Conwy	3 split into two (3 & 15) with gap	Wind and Solar. small part Solar	no NK2R	
15	Mid North Inland		Wind and Solar w. small band Solar	 no NK2R	near S border
4	Near Wrexham	reduced ++	Solar	 no NK2R	touching border
5	North Montgom.	expanded to NW	Wind and Solar	 no NK2R	near SW border
6	Mid Radnor	drawn back from border. Bite out of SW	Wind and Solar		no arrows so is this in PA 6 or PA 8?
7	N of Wye Begwms	N half lost. Touches border	Wind and Solar		inside N.
8	Mynydd Epynt	Bites out of NW & SE “	Wind and Solar		2 sites inside W & mid part of lower blob
9	South of Aberystwyth	N. bit cut out (Aberystwyth)	Wind and Solar		inside midW border
10	S Cardigan Bay	slightly drawn back from Coast	Wind and Solar with Solar prong		inside mid E blob
11	Mid Pembs/Carm	NW removed. SE bite out	Wind and Solar with Solar sliver		touches N border
12	West Pembs.	reduced mainly to S	Solar	no NK2R	
14	Swansea surround	N	Wind and Solar with 2 Solar parts	   	Nr N border inside central S inside and outside central S just outside E border

3.4. Arcadis does not seem to understand the consenting regime or planning hierarchy. While the buffers may inform project-level HRAs, the dNDF clearly states that Local Development Plans and NRW Area Statements are subject to the NDF and so cannot develop spatial plans which deviate in any way from NDF Policies. Moreover, all RE projects over 10MW (virtually all modern wind farms) are determined by the WG.

4. **Priority Areas for refinement, Refined Priority Areas and Buffer Maps 1 – 8 and associated Table 1 (APPENDIX B & Appendices A & B)**

4.1. There are many examples where the text or maps are misleading or simply downright confusing.

4.2. *Misleading examples:*

(PA 1) Table 1 reports “good wind speeds across Anglesey” but referring to Appendix A (of HRA Appendix B), only areas of variable opportunity are left in refined PA 1.

There is no attempt to address the extent of linear SACs, this is a common problem for rivers and the Montgomery Canal and is a serious mistake given the importance of connectivity and increased risk from impacts on upstream tributaries. For example the Table 1 text for PA12 says “Whilst the Cleddau Rivers SAC remains located within the boundaries of this new Priority Area”. But the SAC arrow on the MAP 3 points to **outside** the boundary.

4.3. *Confusing examples:*

It is virtually impossible to follow many of the buffer lines and decide to which designation they belong: for instance the green buffer surrounding NW of PA 6. Many NK2/Rs, for instance appear to have insufficient or no buffers, probably because they are already inside larger buffers of SPAs (20 km or 40km for chough). To give two examples: - Cwm Doethie and Elenydd Maellan are both SAC/SPA and yet it is difficult to find any 20km red buffer: Burry Inlet seems to have a Ramsar Buffer but no SPA buffer.

5. **Arcadis finds the PAs too numerous to look at the impacts on NK@/Rs both inside and outside them**

5.1. (APPENDIX B p4) “The initial assessment in March 2019 (summarised in column 3 in the table below) therefore considered separately the implications for those Natura 2000/ Ramsar sites located ‘Within the Priority Area’ and those ‘Outside the Priority Area’. This distinction is also addressed in the assessment of the subsequent new Priority Areas for Solar and Wind Energy but has not been described separately for each Priority Area given that there are 15 of them”

5.2. These are the refined PAs in the NDF at the highest Welsh planning tier. Policy 10 is unique in being the only fully mapped spatial policy in the NDF and so they must be subject to the strictest possible assessment. The bar for HRA is high and the number of PAs is no excuse for not assessing each one as thoroughly as the unrefined PAs which are not part of the NDF policy.

6. **The HRA implies a lower bar for NK2/Rs inside PAs than those outside PAs**

6.1. The language of the document implies that there is a distinction between “**rigorous HRAs**” outside the PAs and a more lenient kind of HRA with a PA which is anticipating no likely significant effect **in spite of the importance of the buffers clearly set out and explained in the HRA.**

Examples Inside PAs:

(PA 1) “consideration will need to be given to whether or not wetland birds associated with the (Anglesey Fens) Ramsar site could be affected”

(PA 2) “the need to ensure that the proposed location is not a particularly important foraging or roosting area for birds associated with the (North Cardigan Bay) SPA”.

Whereas, Outside PAs:

“Clearly any proposed wind or solar development outside of these new Priority Areas will be **harder to justify**, especially if located closer to the SPAs and other Natura 2000/ Ramsar sites, although that does not mean the such development proposals cannot be consented; rigorous HRA would, however, be required. “ This is repeated for each PA.

6.2. This approach is implying that sites which it has not been possible to exclude from PAs require **less legal HRA protection** than ones that have been excluded. For this to be allowed, there would need to be no alternative site, an imperative over-riding public interest (IROPI) and adequate compensation by the time of the effect (HRA p2. Given the huge area of the PAs and the difficulty of compensating adequately for significant damage to NK2/Rs and associated populations, these tests would be difficult to pass. Pretending that PAs require a lower level of protection for NK2/Rs than elsewhere defeats the whole object of making an HRA of NDF policy 10: creation of priority areas.

7. Distance and risk

7.1. Descriptions of risks within PAs, constantly repeat “**the greater the distance, the lower the risk of impacts**” without drawing attention to the sometimes **very** small distances that make wind farm collision an extremely high risk

Examples:

(PA 1 Wind and Solar area) 1 km from Cemlyn Bay SAC & SPA – 20 km buffer

(PA 2 Solar area) covered by label but <1km from N Cardigan Bay SPA – 20 km buffer

(PA 3 Wind and Solar area) 1 km from the Liverpool Bay SPA – 20 km buffer

(PA 6 Wind and Solar area) touching Elenydd SAC & SPA – 20 km buffer

(PA 9 Wind and Solar area) 3 to 4km from N Cardigan Bay SPA – 20 km buffer and 6km from Elenydd SAC & SPA – 20 km buffer

(PA11 Wind and Solar area) 3 to 4km from Cwm Doethie – Mynydd Mallaen SAC & SPA – 20 km buffer

(PA 13 Solar area) is only 1km from Burry Inlet SPA – 20 km buffer

(PA 14 (Wind and Solar area) is only 2km from Burry Inlet SPA – 20 km buffer

(PA 15 (mixed Wind and Solar and Solar only areas) Wind section is only 3 to 4km from Migneint-Arenig-Ddualit SAC & SPA – 20 km buffer

Yet, “**given the new Priority Area boundaries (for 3, 4 and 15 – and repeated for all PAs), it is considered highly unlikely that there would be any significant effects on Natura 2000/ Ramsar sites of any wind or solar development**” (Summary implications column)

8. Consent for Wind or Solar sites within PAs which are in or close to NK2/Rs

8.1. The PAs have been set with a presumption of approval. The HRA should be looking at the risks of an NDF Policy which sets priority areas. Is not within the HRA remit to guess about the likelihood of consent, especially when the NDF p36 describes a focus on “minimising”, rather than avoiding, impacts within PAs.

Examples:

(PA 9) Rhos Talglas SAC remains within the new Priority Area, so consideration will need to be given to whether or not this site could be affected (**though it is very unlikely that any wind or solar development would be consented within or close to this SAC**).

(PA 10) does still incorporate Rhos Llawr-cwrt SAC as well as part of the River Teifi SAC, so consideration will need to be given to whether or not these sites could be affected (**though it is very unlikely that any wind or solar development would be consented within or close to these SACs**)

(PA 7) Rhos Goch SAC remains within the new Priority Area, so consideration will need to be given to whether or not this site could be affected (**though it is very unlikely that any wind development would be consented within or close to this SAC,**)

(PA 8) However, Mynydd Epynt SAC remains within the new Priority Area, so consideration will need to be given to whether or not this site could be affected (**though it is very unlikely that any wind development would be consented within or close to this SAC**)

But, then the HRA concludes for each PA: **“given the new Priority Area boundaries, it is considered highly unlikely that there would be any significant effects on Natura 2000/ Ramsar sites of any wind or solar development within new Priority Area 1 or 2.”** This is repeated for all other PAs.

9. HRA CONCLUSION

The HRA does not properly address the inclusion of many NK2/Rs inside Priority Areas or the proximity of PAs to other NK2/Rs. Instead it relies both on the “presumption of approval” in Policy 10 not being exercised and on the “extra protection” in Policy 8 - which offers no such protection. No lower-tier planning protection is available for wind farms over 10MW either on land or at sea and so the in-combination impacts of Policy 10 and possibly other spatial land-based policies with the draft WNMP (now adopted) should have been assessed.



CAMPAIGN FOR THE PROTECTION OF RURAL WALES

APPENDIX 3.

ERRORS, PROBLEMS & METHODOLOGY in the EVIDENCE for ENERGY POLICY

- in draft NDF 2019



CAMPAIGN FOR THE PROTECTION OF RURAL WALES

APPENDIX 3

ERRORS, PROBLEMS & METHODOLOGY in the EVIDENCE for ENERGY POLICY in draft NDF 2019

ARUP STAGES 1 AND 2: Identification of priority areas, application of constraints, refinement.

1. ARUP 1: BMV Agricultural Land: Constraints fail to include Grade 3a farmland
2. ARUP 2: Classification & extent of PAs: inconsistencies between dNDF PA mapping and ARUP 2 - lack of evidence and explanation.
3. ARUP 2 Appendix J & classification of PAs by RE technology.
4. Historic Landscape buffering.
5. Protected Landscapes – inconsistently and inadequately buffered – failure to have regard to purposes of protected landscapes.
6. General Criteria for Visual Impact.
 - Arup 2 para. 3.1.1.1
7. ARUP 2: C4 ‘Summary of Renewable Energy Assessments.
8. ARUP 2: C4 ‘Summary of sensitivity assessments.
9. ARUP 2: (p148) Fundamental errors in ‘Primary settlements – population’ map.
10. Ancient Woodland.
11. ARUP 2 9.5.2 (pp46-50) Rationale for revised Priority Areas for Wind and Solar Energy – further comment.
 - Refinement of particular PAs
 - General refinement questions
 - Design guidance
12. ARUP 1 Refinement themes identified.
13. ARUP 1: Fixed, variable & overlay constraints Appendices B and C ARUP 1.
14. Priority Area 8 Inclusion of MOD SENTA training area and buffer.
15. ARUP 2 (p155 E1) ‘Grid Capacity results’ lacks explanation or justification.
16. New methodology for identification of Search Areas – neither explained nor justified.
17. ARUPs 1 and 2 and Executive Summary: Document verification.

OTHER DRAFT NDF DOCUMENTS

HABITATS REGULATIONS ASSESSMENT

INTEGRATED SUSTAINABILITY APPRAISAL REPORT

OTHER EVIDENCE DOCUMENTS

PROCEDURAL ERRORS IN RUNNING OF CONSULTATION

1. ARUP 1: BMV Agricultural Land: Constraints fail to include Grade 3a farmland

ARUP 1 Methodology p7 Table 2: includes Grades 1 and 2 farmland only. Welsh Government policy on BMV (Best and Most Valued) (PPW10 3.5.4) farmland requires the exclusion from PAs of all BMV, i.e. including Grade 3a farmland. See chart below, which uses the 2011 percentage figures for Wales - the latest currently available:

ALC: Grade calibrated to match 2011 urban area data	ha	% of net area	% of all-Wales area
1	12,132	0.7	0.58
2	110,274	6.2	5.31
[NDF cites 1 + 2 only]	[122,406]	[6.9]	[5.89]
3a	174,553	9.9	8.40
BMV	296,959	16.8	14.29
3b	509,505	28.8	24.52
4	401,891	22.7	19.34
5	476,214	26.9	22.91
1-5	1,684,609	95.2	81.06
Urban	84,986	4.8	4.09
ALC + Urban	1,769,555	100.0	
Wales total area *	2,078,200		100.00
Therefore Non-agric	308,645		14.85

* Source: wales.com (Welsh Government information website)

Criteria applied by ARUP within the methodology to identify PAs are therefore incorrect and the ARUP Methodology should recognise that Government BMV policy requires the exclusion from PAs of 14.29% of all-Wales land area, or 297km², as BMV, not 5.89% or 110km² as has been done.

2. ARUP 2: Classification & extent of PAs: inconsistencies between dNDF PA mapping and ARUP 2 - lack of evidence and explanation

- a) ARUP 2 p196 Drawing 10.18 PA15 (Southern part of unrefined PA3) indicated as suitable for wind only not 'wind and solar', there is no mapping of this PA for solar.

But dNDF Map p 42 – PA15 is redefined for wind and solar, and also has a solar only extension.

- b) Similar inconsistency of RE technology for PA1 between dNDF and ARUP2.

- c) PAs 1, 7, 8 & 9. Maps in Appendix J indicate excluded areas within each PA, e.g. Rhosgoch Bog SAC SSSI, SAC & NNR within PA7. These fail to be reflected in the dNDF p42 mapping. This is not consistent with the identification of high risk constraints in ARUP1 'Table 1: Constraints applied to define the high risk areas for onshore wind and solar energy development' or ARUP 2 Table 2 'Fixed Constraints' p10.

ARUP 1 and 2 constitute the underlying evidence for the proposed locations of PAs. Subsequent and unexplained/unevidenced changes in PAs as presented in the dNDF are not acceptable.

3. **ARUP 2 Appendix J & classification of PAs by RE technology:**

No justification for classifications of PAS by technology is provided. No identification of land areas according to the criteria for the individual technologies has taken place.

For example, wind/wind and solar PAs do not correlate to the 'Wind Speed Wales' map ARUP 1 p80, though wind speed is the fundamental requirement for the most efficient use of wind technology. (General rule of thumb: wind turbines can achieve 8x the output where the wind speed is doubled.)

ARUP methodology fundamentally departs (in this and other criteria and general methodology) from Welsh Government Renewable Energy Toolkit P137: *'However, at the time of writing this toolkit, the standard industry approach is, for 80m hub height machines, to look for a minimum average annual wind speed of 6.0m/s at 45 above ground level, and ideally in excess of 6.5m/s.'* Welsh Government apparently proposes that more or larger turbines (or both), with their greater environmental, landscape and social impacts, will make up for potentially unsuitable wind speeds. This is not an intelligent approach and does not respect rural residents, the landscape or the environment.

Similarly identification of a PA for solar is not predicated on evidence gathered regarding suitable topography.

4. **Historic Landscape buffering:**

See maps ARUP 2 pp169-170 indicating buffering of historic assets by 3km and 5km. Contrary to the legend, historic landscapes are not buffered, resulting in close proximity of PAs 1, 3, 5, 7, 11, 13, 14 and 15 to neighbouring Registered Historic Landscapes. Policy 10 will prevent impacts of development on these Registered Historic Landscapes being given due weight in the planning balance.

5. **Protected Landscapes – inconsistently and inadequately buffered – failure to have regard to purposes of protected landscapes:**

Welsh Government has a duty to have regard to the purposes of National Parks and AONBs where its policies may have an impact on their statutory purposes. The definition of PAs for RE development close to the boundaries of protected landscapes, which may include wind turbines up to 250m in height, is clearly a case in point.

See ARUP 2 9.5.2 pp46-50 and Section C1: C1 is not explained but seems to set out to establish across the unrefined PAs the % of the relevant protected landscapes from which development of wind turbines at either 150m height or 250m at a particular location would be visible – indicated by a coloured spot. The methodology and its rationale are not explained. The maps can be very hard to read with colour keys close in tone and almost indistinguishable. What %s are considered acceptable and why is not explained. This methodology does not address issues of very significant impacts on smaller % areas of protected landscapes, for example the loss of the currently magnificent views northwards out of the Brecon Beacons National Park from its high ground throughout the park and from the entirety of the northern edges.

Text in 9.5.2 which explains refinement of PAs is inconsistent and wholly subjective in approach, resulting, for example, in buffers as small as 2.5/3km between the Brecon Beacons National Park and PAs 7 and 8, while a 'suitable buffer area (of approximately 4km)' is applied between Snowdonia National Park and PA5, and PAs 12 and 13, on visibility grounds from protected landscapes are designated for solar only. These are just a few illustrations of the inconsistencies of treatment – see 11 below.

Overlay constraints in ARUP 1 Appx C1 refer to 2km and 20km buffers for solar and wind respectively to be applied to designated landscapes, but overlay constraints do not contribute to the identification of PAs.

At the very least the evaluation of impacts on protected landscapes needs justification to explain how Welsh Government considers that proper regard has been given to the statutory purposes of protected landscapes.

6. General Criteria for Visual Impact

LANDMAP Information Guidance Note 3 (Using LANDMAP for Landscape and Visual Impact Assessment of Onshore Wind Turbines) refers to significant landscape effects 'to around 20km+ where there are sensitive upland/mountainous areas in the overall study area' and impacts on visual amenity up to 35km.

Even Welsh Government's Renewable Energy Toolkit, which works its examples for wind turbines of 120m height, refers to a separation of 7km, 'the rationale being that beyond this distance wind farms are no longer dominant in the landscape'. Simple and clear, if itself inadequate for turbines of 150m or 250m.

Arup 2 para 3.1.1.1

Significant landscape or visual effects in relation to High Sensitivity receptors occur in combination with Medium magnitude and above. That in turn relates to the physical size, numbers and cumulation of turbines,

"NRW's Seascope and visual sensitivity to offshore wind farms in Wales: Strategic assessment and guidance Stage 1 - Ready reckoner of visual effects related to turbine size considers the relationships between distance from observer to wind farm and turbine height. The resulting magnitudes of change for offshore wind farms has been used to identify the visual study areas for turbines up to 150m and up to 250m.

It is acknowledged that using the NRW Ready reckoner of visual effects related to turbine size report to inform the identification of visual study areas has certain limitations. For example, the number of Seascope, Landscape and Visual Impact Assessments (SLVIAs) used to inform the report was small due to the availability of relevant SLVIAs. However, given the strategic nature of this study it is considered that the use of the Ready reckoner is acceptable.

The visual study areas have been focussed on the range of distances linked to turbine height which have been shown to result in impacts of medium magnitude or above, see Figure 2.

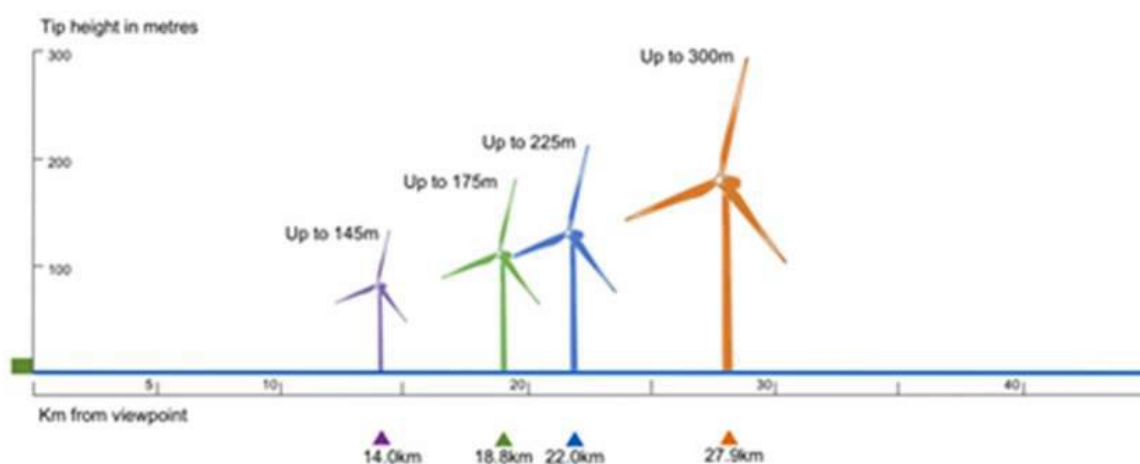


Figure 2: Distances at which average medium magnitude of visual effect occurs for different heights of turbine. Source: Commissioned Report for NRW Evidence Series, Report Number 31515

The visual study areas for turbines up to 150m and 250m have been identified by interpolating between the range of turbine heights given in NRW's Stage 1 ready reckoner report, which gives:

- 15km (rounded up from 14.75km) buffer for turbines up to 150m.
- 24km for turbines up to 250m.

These visual study areas for 150m and 250m turbines have been applied to all nationally designated landscapes within Wales. In addition, the visual studies areas were also applied to those nationally designated landscapes in England where the visual study areas would extend into Wales."

7. ARUP 2: C4 'Summary of Renewable Energy Assessments' (pp C8-C9)

The Powys County Council – 2016 REA is referenced instead of the subsequent, and radically revised, REA published in May 2017 which is not mentioned. <https://en.powys.gov.uk/article/5365/Supporting-Evidence>. We give this as an example. We have not checked accuracy of information for other Local Planning Authorities.

Has any work been done to reconcile LPAs REAs with ARUP PAs? If not, why not? If so, where is the evidence? What is the justification for overturning the conclusions of Powys's own REA, which, conducted according to Welsh Government Guidance, concluded there was no scope for wind search areas in Powys? Where does this leave LPAs such as Powys which has to contend with 3 separate and inconsistent spatially defined policy regimes all imposed on them by the Welsh Government: first TAN 8 SSAs for wind, next Local Search Areas for Solar and now vast NDF Priority Areas. How can they possibly assess impacts, let alone cumulative impacts, in future decision-making for RE projects under 10MW, when there are three conflicting spatial policy regimes and any RE application could be inside one or more regimes or outside all of them? TAN 8 still stands according to PPW 10.

See 14 below re MOD SENTA training area, accounted in consideration of wind LSAs in Powys. Were no discussions held with LPAs regarding major constraints in their LPA areas?

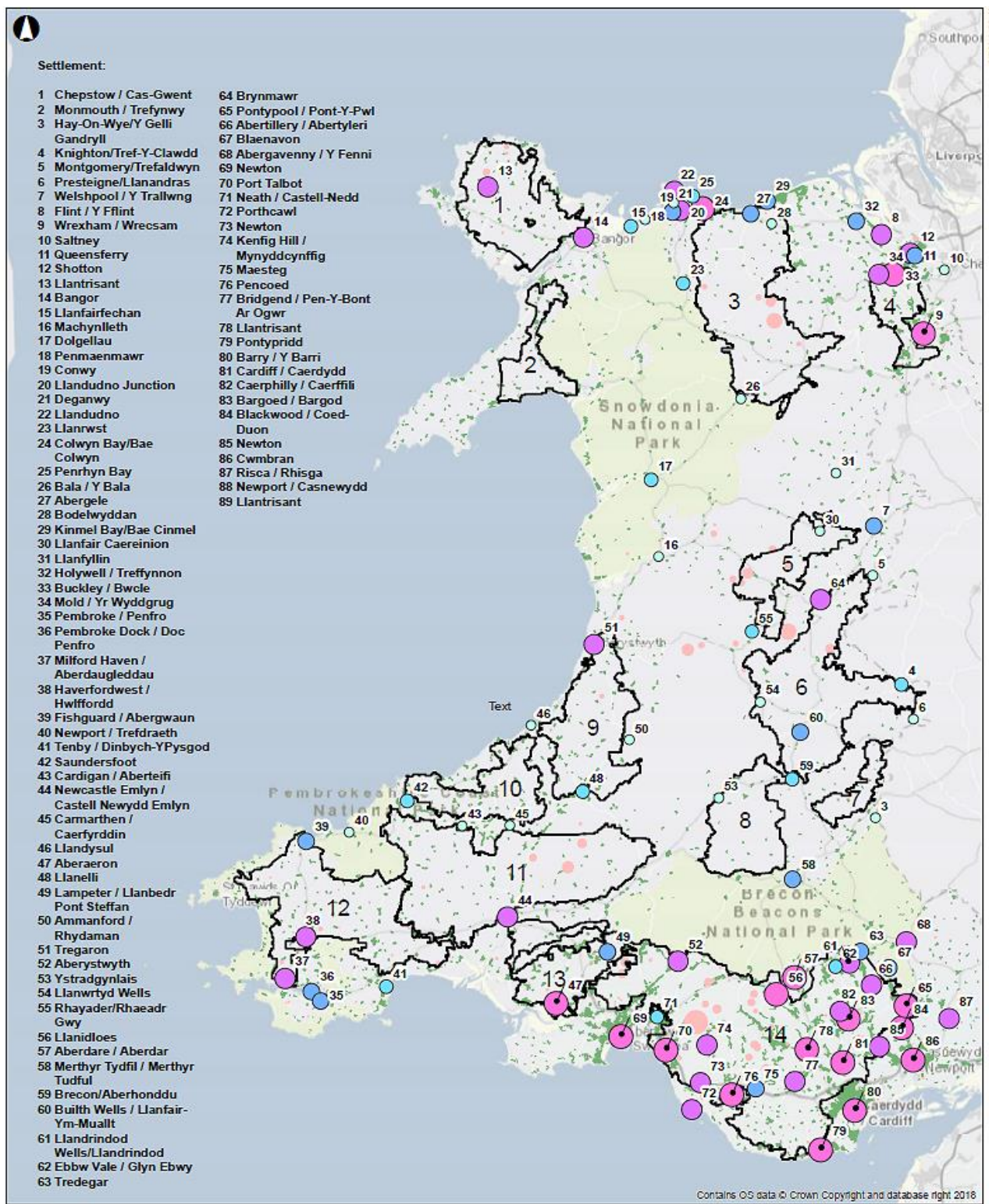
8. ARUP 2: C4 'Summary of sensitivity assessments' (p C13)

There is no reference to Powys County Council– 'Landscape Sensitivity Study for Solar Farm Development' published in May 2017. <https://en.powys.gov.uk/article/5365/Supporting-Evidence>. We give this as an example. We have not checked accuracy of information for other Local Planning Authorities.

Have PAs been considered against LPAs Landscape Sensitivity Studies? If not, why not? If so, where is the evidence?

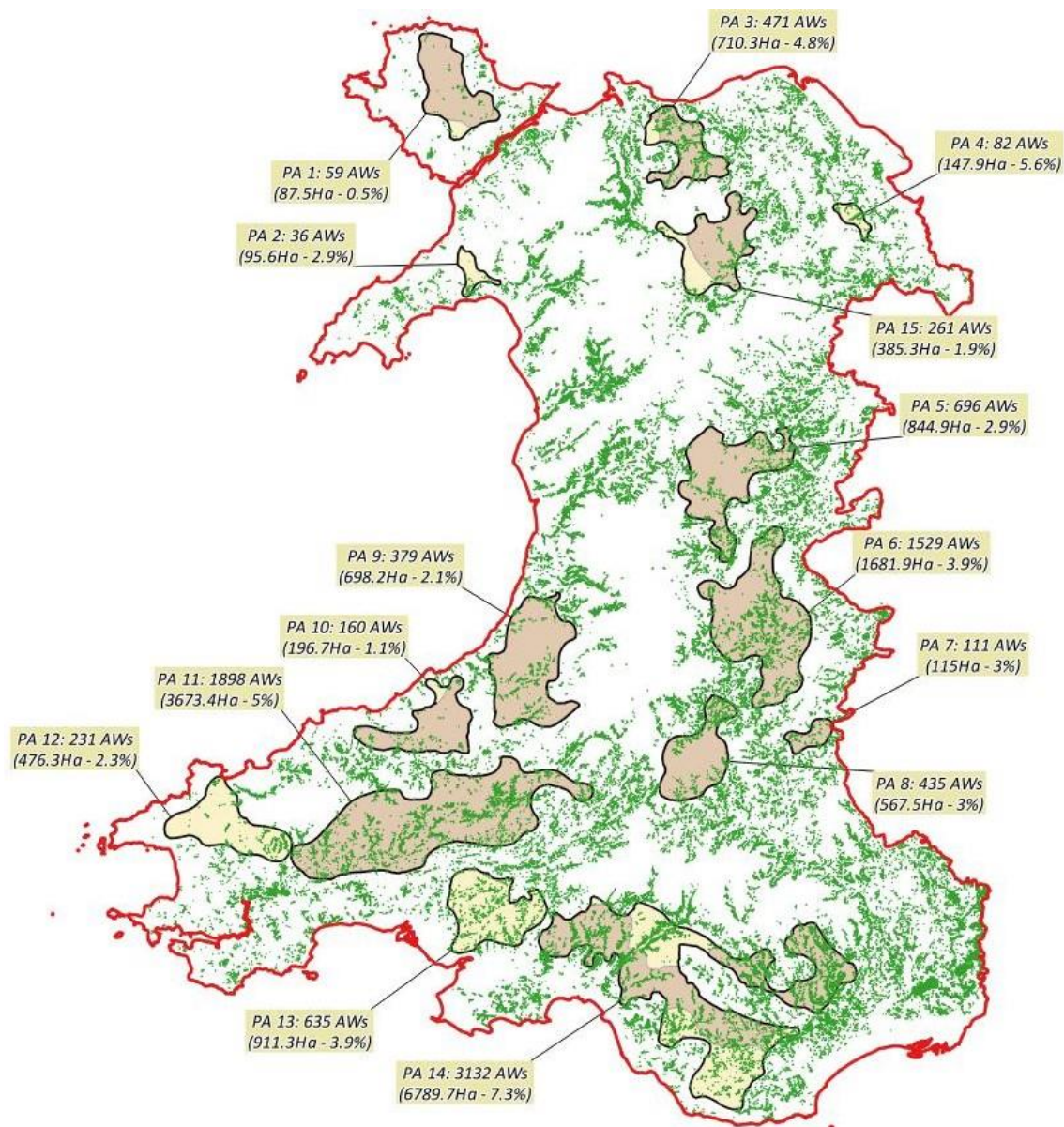
9. ARUP 2: p148 Fundamental errors in 'Primary settlements – population' map (extract below):

There are fundamental inaccuracies: 5 of the named settlements are not mapped at all - 1, 2, 41, 88, 89; around half of the settlements mapped are incorrectly identified. These are fundamental errors which it is astonishing to find in finalised documents put out by Welsh Government for public consultation as evidence for policy which will massively impact the whole of rural Wales for the foreseeable future. This has to cast serious doubt on the adequacy/accuracy of ARUP reports as a whole as an evidence base for major policy change. See map reproduced below.



10. Ancient Woodland:

Identified as a 'fixed constraint' in ARUP 2 Table 2 'Fixed Constraints' p 10, but there is no mapping of ancient woodland, and no exclusion of ancient woodlands in the definition or refinement of PAs. The relaxed planning regime, and presumption of approval, (see NDF Policy 10) proposed within PAs will not protect this important and irreplaceable asset. See map below which indicates the number and extent of Ancient Woodlands contained within PAs.



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 Data used under Open Government Licence for Public Sector Information.
 Wind & Solar Priority Areas digitised from Welsh Government document "Draft National Development Framework".

We give this as one example. See Constraints Table Appendix 1 for further comments on application of constraints.

11. ARUP 2 9.5.2 pp46-50 Rationale for revised Priority Areas for Wind and Solar Energy – further comment

ARUP 1 identifies 'unrefined PAs' for refinement within ARUP 2. Unrefined PAs include 'areas of greatest opportunity' and 'areas of varying opportunity' i.e. unrefined PAs will by definition include constrained areas. It follows that rigorous refinement should follow, preferably using clear, transparent criteria and rigorous GIS mapping. However, pp 46-50 set out notes on a Welsh Government/NRW workshop which is the only source for refinements made to PAs. See our notes below on the workshop discussion:

Refinement of particular PAs

- PA3: 'The area has been extended to the east to incorporate all of TAN 8 SSA A'. This in fact refers to new PA 15, which is therefore defined according to two entirely different sets of criteria. There can be no rational justification for defining PAs by one set of criteria and then throwing n areas from the SSAs, which were defined by a completely different set of criteria and have been already ruled out by the ARUP criteria for PAs, but will now be subjected to the presumption of approval and reduced protections of Policy 10.

- b) P47 PA5: Inclusion of SSA B – see a) above. *‘The boundary of this area has been pulled back to avoid Llandrindod Wells.’* Llandrindod Wells lies to the south of PA6, which is in turn to the south of PA5. This is nonsense. Has the author been relying on ‘Primary Settlements – population’ map? (see 8. above)
- c) P47 PA6: Inclusion of SSA C – see a) above. Reference to the Brecon Beacons suggests limited knowledge of local geography. The town of Rhayader sits within the boundaries of this PA.
- d) P48 PA8: *‘Priority Area for Wind and Solar Energy 8 has been reduced to remove areas of high visibility from the Brecon Beacons to the south’.* PA8 lies on high ground, and development of 150m/250m turbines within PA8 will be very visible from large swathes of the National Park. The reduction creates a wholly inadequate buffer of as little as 2.5km in places. This is presented as a concession **but in fact the feeble buffer represents amounts to a failure to have regard to the purposes of the National Park.**

The author notes that the Ministry of Defence have yet to be consulted about the inclusion of the military zone and its buffer within this PA. This is a serious oversight. See 12 and 14 below.

- e) P48 PA11: We note 3km buffers introduced around ‘historical assets’ which exceed the buffer given to the Brecon Beacons National Park.
- f) P49 PA13: *‘The gap in the middle has been closed.’* This is incomprehensible. The ‘gap’ will be the consequence of application of a fixed constraint which can’t be traded for an area to the north of the PA to neaten up its shape. Removal of a northern area has the incidental ‘added benefit’, apparently, of buffering the Brecon Beacons National Park.
- g) P49 PA14: *‘Where possible, centres of population have been moved..’* incidentally buffering the Brecon Beacons National Park, and refinement to *‘avoid development right up to the boundary of the Brecon Beacons National Park’* has incidentally removed centres of population. *‘Areas with more than 50% visibility from the Brecon Beacons National Park have been removed.’*

General refinement questions

This refinement exercise and in particular the comments on PA11 give rise to many questions as to the underlying principles of refinement:

- Shouldn’t ‘centres of population’ all be excluded? What is the definition of ‘centres of population’ and what is the protocol for excluding some and not others?
- Why aren’t National Parks always buffered from PAs? What are criteria for buffering and why are these not uniformly applied?
- What are the criteria for determining unacceptable visibility from National Parks? This is not at all clear to the reader.
- Has the consequence of including land areas within several PAs which are defined by entirely different criteria (TAN 8) but will be subject to the same permissive planning regime been considered? If not, why not?
- What is the justification for replacing the relatively logical and evidence based AECOM Toolkit methodology with this unsatisfactory make-it-up-as-you-go-along approach?

This refinement exercise appears illogical, inconsistent, subjective, misconceived and sometimes just ignorant and wrong. It is fundamentally flawed and completely unacceptable.

Appendix I, notes on stakeholder workshop, appears to suggest that some parts of the refinement exercise were carried out as a result of a conversation between Arup experts, Welsh Government and NRW officials rather than being a rigorous and evidence-based exercise. This is an unacceptable basis for decisions which have the potential to compromise our environment and biodiversity, impact on rural well-being, devalue people’s houses and potentially negate life savings, and mortally wound the Welsh tourism industry. The refinement exercise appears to have been a hasty exercise, completed without due diligence or attention to local factors.

Design guidance:

It is proposed that design guidance (ARUP 2 p24) will adequately remedy the faults within the PA mapping methodology and provide protections which Policy 10 does not. This is a misconception. Policy 10, as **policy**, with the wording “presumption of approval”, will be paramount in decisions on site-location and **design guidance** will only contribute to “mitigation”. It is essential that proper protections are enshrined in **policy wording**.

12. ARUP 1 Refinement themes identified

ARUP 1 contains many pages of discussion of methodology, if such a user-flexible collection of potential options can be called a methodology. This is distracting and makes it difficult to get a clear understanding of the process adopted by ARUP in establishing first the unrefined PAs, and then refining these initial areas.

However, looking at p24 ARUP 1 and p18 ARUP 2, it is clear that the ‘unrefined PAs’ as identified in ARUP 1 have not yet been adjusted for the factors identified on page 25 ARUP 1 and in Table 9 p26 ARUP 1:

- a) P25 ARUP 1 recommends analysis of the following factors: **grid** – capacity and cost of connection; **landscape; access; land ownership**. It also recommends consideration of **existing wind and solar sites**, and assessment of **wind speeds** within ‘unrefined PAs’;
- b) Table 9 sets out specific concerns relating to Areas 002 to 008 (where is 001?) which are described but not mapped so their extent is not clear, but potential issues emerge as in a) above.

Many of these factors would have lent themselves to further rigorous constraints mapping to exclude areas according to a more appropriate set of criteria. Instead, the process followed is set out on p43 ARUP 2, and indicates that while evidence has been gathered and presented by ARUP to workshops with Welsh Government and NRW, no further GIS criteria mapping has been used to refine the PAs, which have instead been subjected to the capricious and subjective consideration described in 11 above.

It is unclear how much of the mapping evidence made available by ARUP to Welsh Government (pp12-42 ARUP 2 & Appendices) has actually fed into the untransparent refinement process.

13. ARUP 1: Fixed, variable & overlay constraints Appendices B and C ARUP 1

Appendices B and C ARUP 1 contain lists of ‘fixed’, ‘variable’ and ‘overlay’ constraints. ‘Fixed’ are intended to be excluded from consideration for RE development, ‘variable’ to be applied according to user-preference, and ‘overlay’ are described in Appendix A Step 3 as ‘grid infrastructure’. No clear rationale is provided for this categorisation, 11 and 12 above point to significant problems arising.

In our opinion, the following ‘variable’ constraints should be redefined as high risk ‘fixed’ constraints, excluded from consideration for RE development:

- Peat deeper than 45cm
- SSSIs
- NNRs
- LANDMAP V&S: high and outstanding
- Open Access land
- RIGS
- BMV Agricultural land

And the following, not included in variable list, included as high risk:

- UNESCO biosphere
- Both Welsh Geoparks (i.e. including Geo Mon Anglesey Geopark)

This would have ensured the exclusion of these ‘variable’ constraints from search areas for PAs.

The following, included within list of ‘overlay’ constraints, are not infrastructure, and should have been included as either fixed or variable constraints, buffered as appropriate:

- LANDMAP Geological high & outstanding
- LANDMAP habitats high & outstanding
- Flood Zones 2 & 3
- Scheduled Ancient Monuments with buffer [*Powys LDP – 500m buffer applied for both wind and solar technologies*]
- Registered Parks
- Tranquil Areas
- Existing wind and solar
- Active travel routes
- Protected landscapes, environmental & heritage sites buffers
- Existing RE sites
- Steep slopes
- Buildings

And the following should also be included:

- LANDMAP historic landscape high & outstanding
- LANDMAP Cultural high & outstanding

While we contend that constraints (as shown in Appendices B and C ARUP 1) should be upgraded *and* further constraints applied, many of the constraints in ARUP 1 do not appear in the ARUP 2 lists of constraints **actually applied**. Others have been downgraded from ‘fixed’ to ‘variable’. PAs contain areas of ‘varying opportunity’, which are so-classified because they contain “variable” constraints, and thus PAs are full of variable constraints.

Constraints maps would have been useful, in the manner of the Step by Step mapping in AECOM 2017 REA for Powys LDP to throw light on the treatment of constraints.

Note: ARUP 1 list of fixed constraints includes the following note:

‘MoD to send data on the following:

- MoD estate
- Assessment undertaken by their radar engineer based on the maximum turbine height provided to them by Arup.’

ARUP 2 has proceeded without this information. It appears that a relatively ordered process in ARUP 1 has given way to a confused rush to finalise the ARUP 2 stage. This has led to downgrading of assumptions in ARUP 1, and failure to follow through recommendations for refinement. The impression is of Welsh Government demanding the identification of the largest PAs possible, as soon as possible.

The identification of constraints in the identification of PAs should reflect the implications of the permissive policy which is intended to apply within designated PAs. **Policy 10, with its reduction of environmental and other protections, dictates that the most rigorous exclusion criteria should be, but have not been, employed in the determination of PAs. Welsh Government is therefore failing in its responsibilities for protection of residents and biodiversity, required under international and domestic legislation, and in its commitment to sustainable development and the sustainable management of natural resources.**

14. Priority Area 8 Inclusion of MOD SENTA training area and buffer

The MOD SENTA Training Area is currently in active use for live firing and is an exclusion zone. Rights of access are strictly confined for safety reasons. Most of the SENTA training area lies within PA 8. The MOD is unlikely to support designation of their training ground as a PA. Development is unlikely to be suitable where there is a risk of unexploded ordnance.

Although AECOM, in the Powys LDP 2016 REA, recognised the SENTA Training Area as a constraint, the MOD expressed concerns about the potential for wind and solar development in the proximity of the training ground to impact on future utility of the training area. The risks posed by wind turbines on low flying of helicopters and aircraft, and on radar function, and the risks from solar glare, necessitated buffers of 10km and 3.5km

respectively, which were agreed with Powys County Council and set out in Statement of Common Ground dated June 2017. This is available on the Powys website: <https://en.powys.gov.uk/article/5365/Supporting-Evidence> . A 10km buffer applied around the SENTA training area includes the whole of PA 8, and also the southern tip of PA 6.

ARUP 1 Appx B contains ARUP recommendation that military requirements be discussed with MOD. There's no indication this advice has been followed.

This omission from ARUP's work in identifying PAs suggests that no discussions have been held with Local Planning Authorities as to constraints operating in their areas.

To the west and north of the SENTA Training Area is a large MOD Low Flying Tactical Training Area, which again has not figured as a constraint within ARUP methodology.

15. ARUP 2 p155 E1 'Grid Capacity results' lacks explanation or justification

This table presents 4 scenarios for each PA, the first headed 'To meet renewable energy target', where the target itself and the basis for setting the target are unstated. To give an example, for PA7, the first column shows what is assumed to be a target of 62MW, but then presents 3 scenarios, headed 'Low coverage', 'medium coverage' and 'high coverage' of 66MW, 329MW and 657MW respectively. The method of arriving at the targets requires explanation, as does the meaning of the 4 scenarios and the intention lying behind their identification. For instance, is it really intended that upwards of 250 industrial scale turbines are to be built in PA7, adjacent to Hay-on-Wye, facing the northern escarpments of the Black Mountains in the Brecon Beacons National Park, overlooking the Wye Valley Registered Historic Landscape and largely made up of National Trust land which is huge favourite with visitors and residents, on foot, bicycle and horse?

The information in this table is required for an understanding of the proposals but we know neither how it was derived nor what it means.

Targets and cumulative impact:

It is not clear whether development within and in proximity to the PA has been taken into account in setting targets for the PAs or whether the cumulative landscape and visual impact has had any role in informing drawing of PA Boundaries. PPW10 refers LPAs to the Renewable Toolkit which expects such a cumulative assessment to be undertaken, as was done for TAN 8. Paras 8.4 and 8.5 (TAN 8 p63):

8.4 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.

8.5 TAN 8 (and the work on which it is based), therefore, considered cumulative landscape and visual impacts at the all-Wales level. The strategy adopted is a means of concentrating the impact of wind turbines in a relatively small proportion of the country in areas that are, on balance, technically, practically and environmentally better able to accommodate such impacts than other parts of Wales.

The Welsh Government did consider the cumulative impacts for TAN 8 but has dropped this step, which is still recommended by the WG in PPW 10, for the NDF

Solar efficiency: The solar 'panel efficiency' (or Capacity Factor) of 22% claimed by Arup at Stage 1 para 2.5.1 and described in the cited source is not valid for UK conditions and contradicts that defined at Energy Generation in Wales (EGW) p6 as 12%. This exaggerates output claims made by Arup.

16. New methodology for identification of Search Areas – neither explained nor justified

PPW10 says '**Welsh Government Practice Guidance: Planning for Renewable and Low Carbon Energy – A Toolkit for Planners** provides guidance on how an evidence base can be developed. It includes guidance on developing a Renewable Energy Assessment, Energy Opportunities Plan and Strategic Sites Assessment, and how this can be translated into planning policies' (5.9.3). While PPW is clearly supportive of RE development and search area identification, 5.9.4 says Local Planning Authorities must '**direct developments to the right locations** and set out clearly the local criteria against which proposals will be evaluated'. 5.9.12 states '*The*

SSAs are the most appropriate locations for large scale wind farm development’ and 5.9.15 states that Local Planning Authorities should identify those areas within SSAs which are suitable.

In other words, PPW supports use of the Renewable Energy Toolkit, recognises the desirability of refining high level search areas, and recognises the importance of the right development in the right place, achieved by the application of appropriate local criteria.

We contrast the Renewable Energy Toolkit and ARUP methodologies for the identification of search areas below.

Extract from AECOM Renewable Energy Toolkit p136:

Methodology

You can access the accessible wind resource for your local authority area, using GIS constraints mapping, by following the steps below:

- Step 1: Decide on typology of wind turbine to use for the assessment
- Step 2: Map average annual wind speeds
- Step 3: Map environmental and heritage constraints
- Step 4: Map transport infrastructure constraints
- Step 5: Map existing dwellings and a noise buffer
- Step 6: Map existing aviation and radar constraints
- Step 7: Prioritise available wind resource
- Step 8: Assess potential installed capacity and energy output
- Step 9: Assess cumulative visual and landscape impact issues and reduce resource accordingly

ARUP Methodology

Step 1: Define high risk areas. Although there is so much extraneous information that it is quite hard to establish exactly what has been done, it seems (3.2 ARUP1) high risk constraints are identified where any 250m x 250m square contains 50% or more of that constraint, meaning that some linear features, and edges of larger features will not be recognised. High risk constraints are listed in ‘Table 1: Constraints applied to define the high risk areas for onshore wind and solar energy development’ ARUP 1 Appx A pp4-5, but there are changes between this list and the list at p10 ARUP 2 (see 13) as actually applied to define PAs.

Step 2: Define low risk and medium risk areas, by user self-selection of further constraints. These user-variable constraints, are found in ‘Table 2: User-variable constraints applied to create user defined high risk areas, which are added to the high risk base layer’. They include peat deeper than 45cm, SSSIs, agricultural land Grades 1 and 2, Open Access, Historic Landscape and more, all of which can be omitted from consideration, should the user choose. Again changes have been made to arrive at the list applied to define PAs – ARUP 2 Table 3 p11 (see 13), and identified constrained areas are, in any case, included in PAs.

Step 3: Overlay grid infrastructure. This step is also user-led and will not restrict identified areas. Although the step is defined as ‘overlay grid infrastructure’, this is in fact where flood zones, steep slopes, buffering of protected sites and landscapes and other considerations will, or will not, be brought into play. Overlay user-variable constraints are found in ‘Table 3: Overlay layer User-variable constraints applied to create user defined high risk areas, which are added to the high risk base layer’. There’s no indication this step has been followed in refining PAs. See notes on refinement process 11 & 12.

Step 4: Define resource availability: by consulting 'Table 4: Wind turbine assumptions' or 'Table 5: Solar panel assumptions' and calculate potential output by reference to 'Table 6: Method for calculating energy output of a given area'. The selection of 'energy output calculation methodology' is presented but not explained in Section 3.3 p21 ARUP 1. Method 2 '**based on unconstrained resource**' has been chosen even though it is not consistent with the Renewable Energy Toolkit and for both wind and solar it is stated that '**This method may overestimate the wind [or solar] resource available for a site making it an unreliable approach for developers**'. **Key data is not provided** e.g. reference turbine, capacity factors, solar efficiency (see 15).

Scenarios: Appx B ARUP 1 sets out 4 scenarios, from '**Scenario 1 – minimum constrain, maximum output**' through to Scenario 4 – maximum constraint, minimum output'. **In defining PAs constraints applied are set out in ARUP 2 BUT see Constraints Table Appendix 1.**

ARUP Methodology - presented in ARUP 1 - has been developed on the hoof, despite the existence the AECOM Renewable Energy Toolkit. The input of stakeholders including the industry is admitted. This makes sense with the all-important proviso that the resulting methodology is not skewed by industry interests, respects the needs of other interest groups, and in particular provides for appropriate protection of rural residents, the environment and the landscape environment and the landscape needs of other interest groups, and in particular provides for appropriate protection of rural residents, the environment and the landscape.

Problems:

1. Welsh Government has not explained or justified the abandonment of their own guidance on the identification of PAs, which are high level search areas for wind and solar i.e. the very thing the Renewable Energy Toolkit methodology has been designed to identify.
2. There is a fundamental mismatch between a) the application of a minimum-constraint search methodology, creating high level search areas for RE development within which are known to be multiple constraining factors, and then b) applying to those search areas a permissive policy (Policy 10) which will downplay the weight given to environmental, amenity, landscape and other constraints. The Welsh Government is failing in its duty to protect its citizens and environment, and its obligations to support sustainable development and sustainable management of natural resources.

17. ARUPs 1 and 2 and Executive Summary: Document verification

1. ARUP 1 Document Verification form included at p2. Identifies authorship, versions, and is signed off 'final'.
2. ARUP 2 No Document Verification form included, no indication of authorship, checking and sign off etc.
3. ARUP Executive summary stage 1 and 2 contains a document verification form, though any changes made between 8th July 2019 (signed off) and 12th July 2019 (not signed off) don't have explicit authorisation.
4. ARUP document control and verification is inadequate.

HABITATS REGULATIONS ASSESSMENT

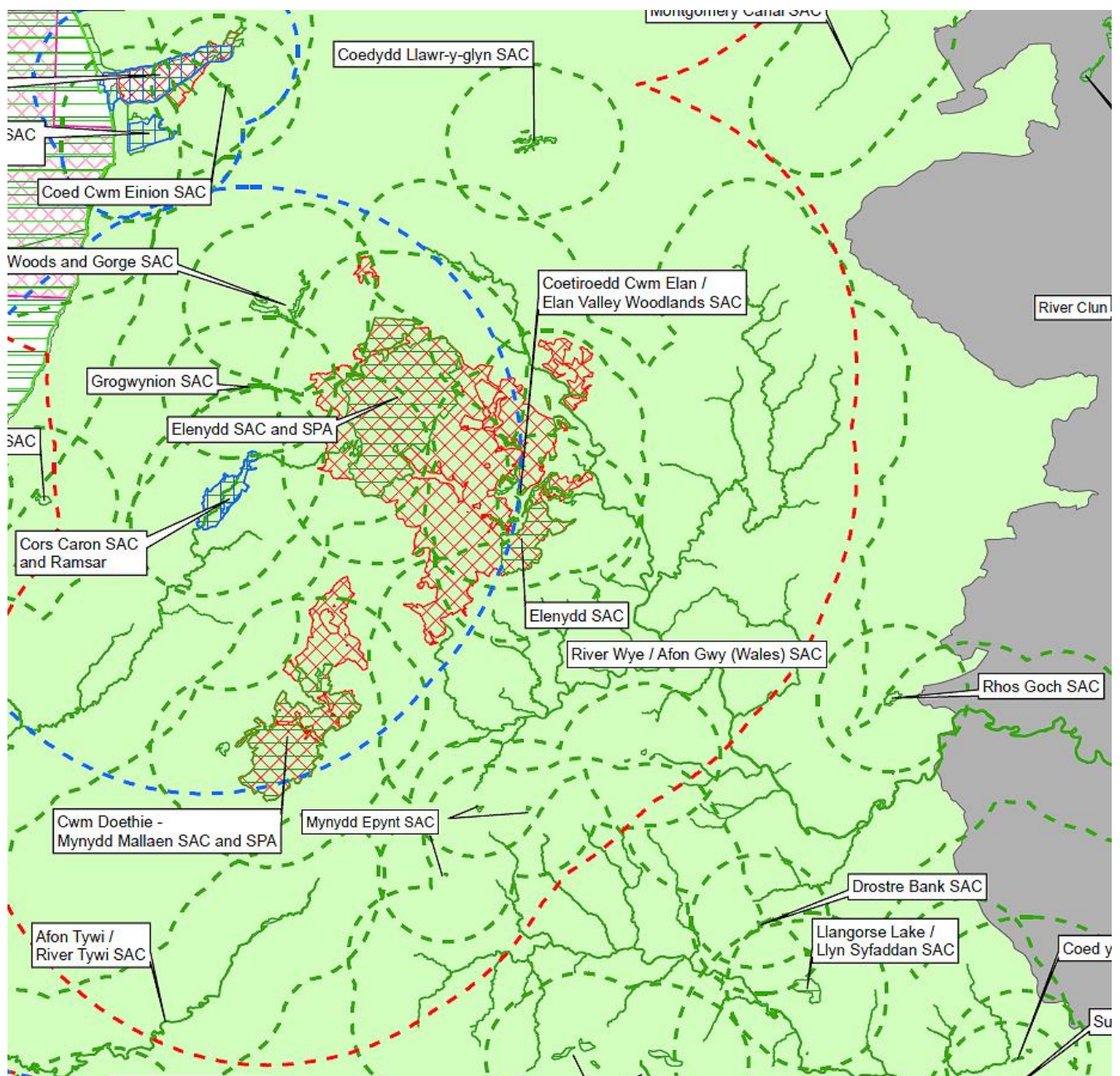
1. Inadequate buffering of protected environmental sites: Elenydd Mallaen SPA buffer

The HRA (Version 2) (p6) states '*The buffer distance set for birds is greater than for bats mainly because certain birds associated with SPAs and Ramsar sites (e.g. raptors, wildfowl & waders, etc.) tend to readily fly greater distances as part of their foraging behaviour. Thus, birds associated with a designated site are certainly not confined to the boundaries of that location and will often fly some distance from it to feed, roost or breed. This*

is the basis of the concept of 'functionally-linked land' and the fact that HRAs of SPAs need to take into account the fact that birds from the designated population will often spend time outside the designated area. Whilst this is very unlikely to be an issue for solar farms (although the presence of such features could displace birds from areas they would previously have used), there certainly is a risk of mortality associated with wind farms, even if they are some distance from the border of a Natura 2000/ Ramsar site supporting birds. **The buffer zone for SPAs (and for Ramsar sites where the qualifying features include bird species) has therefore been set at 20km.'**

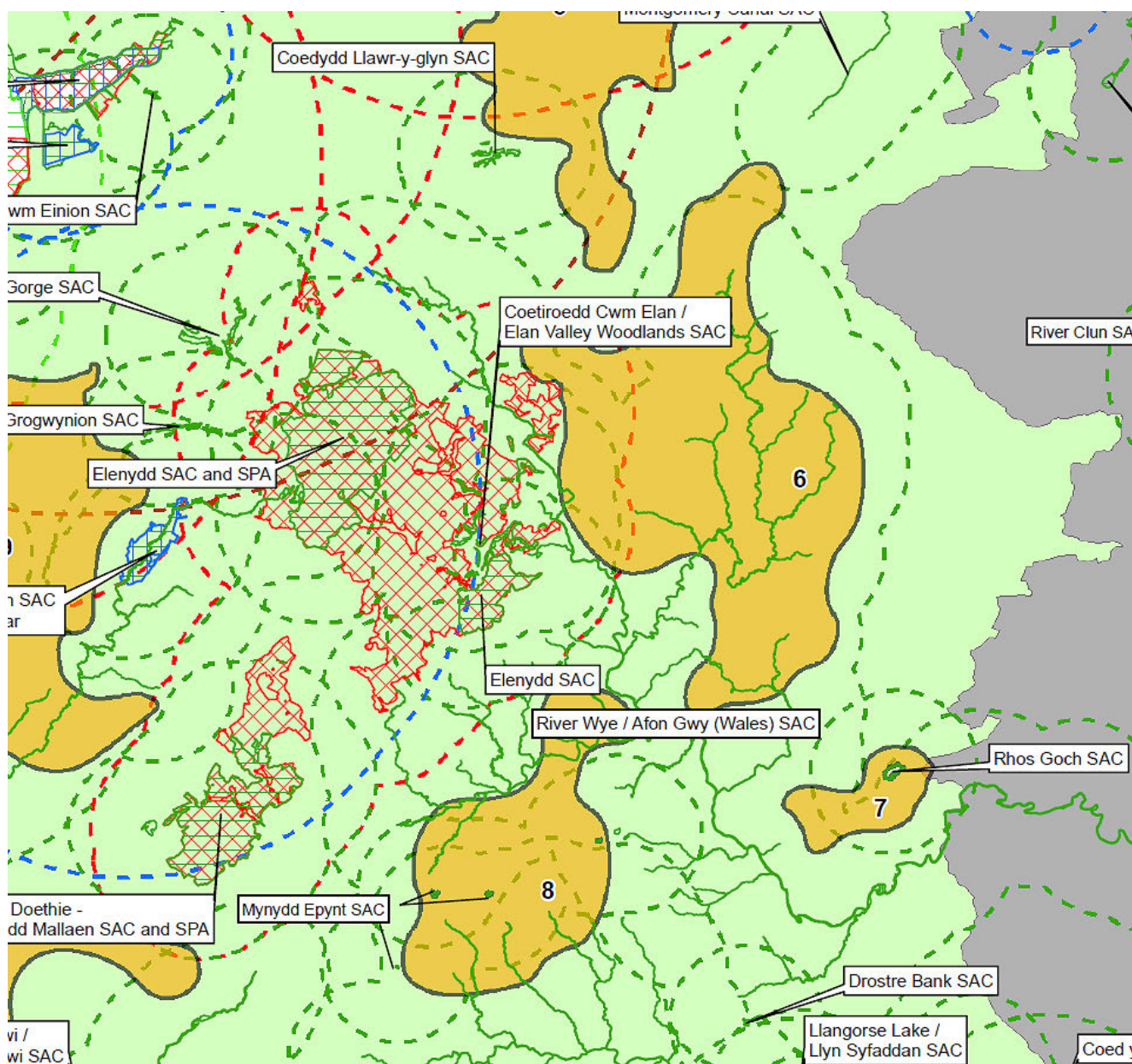
And further on: 'These buffer zones are very important with regard to future consideration of wind and solar farm development both within and beyond the new Priority Areas for Solar and Wind Energy. Essentially, these buffers should aid the HRA Screening process for subsequent renewable development proposals. Any proposed wind or solar development that is outside the buffer zone for any Natura 2000/ Ramsar sites can be screened out of HRA, as it can be assumed that significant impacts are extremely unlikely. By contrast, any proposed wind or solar farm within a buffer will need to be screened.'

HRA Appx A (Habitats Regulations Assessment: Rules of Thumb) p34 'Figure 2: Detailed view of Natura 2000 sites with site buffers Page 4 of 8': Red dotted line indicates 20km buffer for Elenydd-Mallaen SPA. See extract reproduced from this map below:

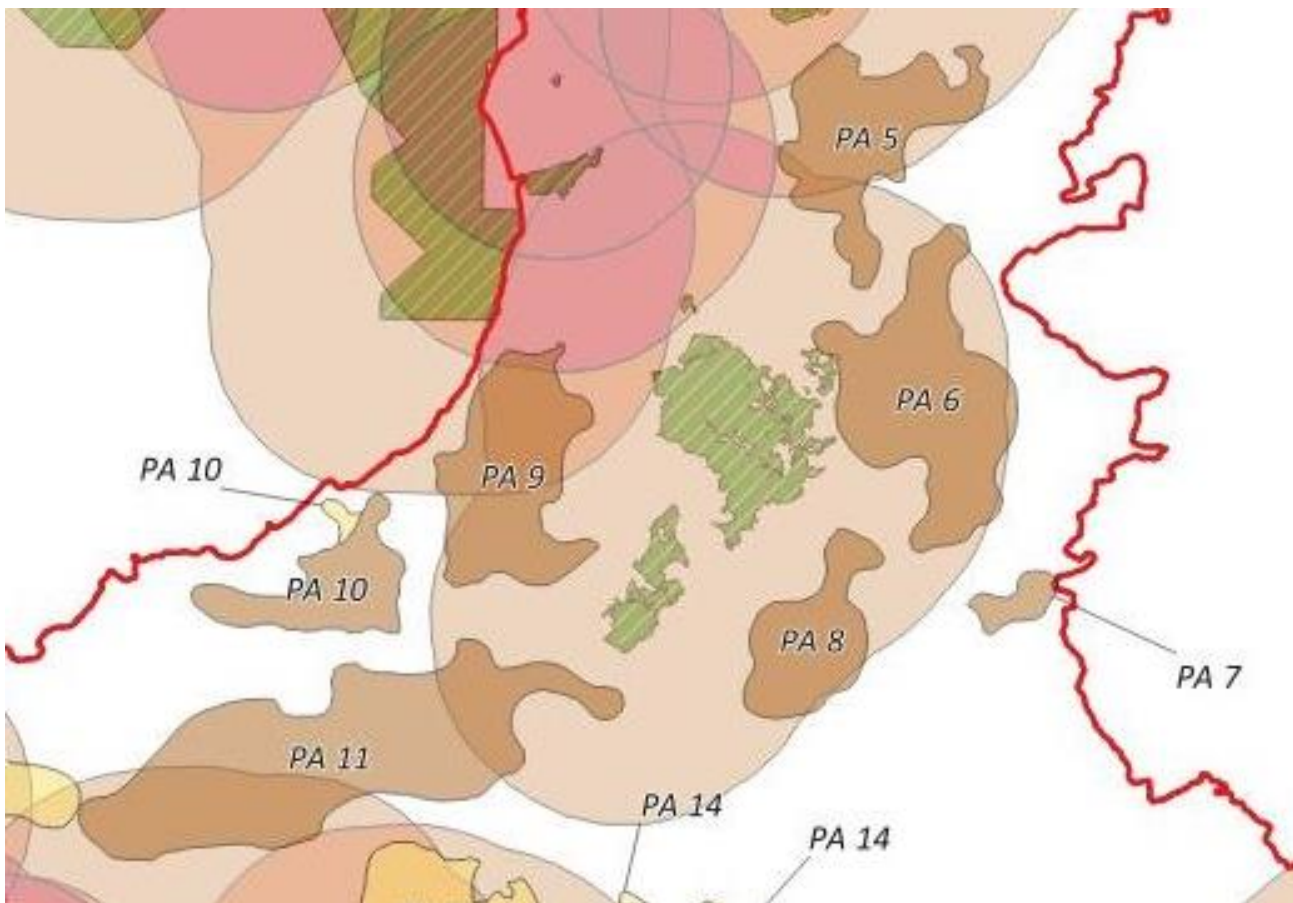


By contrast, HRA Appx B 'Figure 2: Detailed maps of Priority Areas for Solar and Wind Energy and Natura 2000/Ramsar Sites with Site Buffers Page 4 of 8': the dotted red line buffer around Elenydd-Mallaen SPA, while still indicated on the key as 'Special Protection Area Buffer' is now set at 5km around the SPA, not the 20km referred to in the text as required.

See extract reproduced from this map below, and contrast dotted red line buffer with map above:



Now see CPRW map below, which indicates the correctly drawn **20km** buffer around the Elenydd-Mallaen SPA on a base map which includes the refined PAs, and so indicates which PAs lie **within** the foraging buffer of the Elenydd-Mallaen SPA i.e. parts of PAs 5 and 11, and almost the entirety of PAs 6, 8 and 9.



Note that species within the management plan for the SPA include peregrine (*Falco Peregrinus*). From p7 of the HRA (version 2): *'...any proposed development that is within 10km of a site supporting peregrine or hen harrier is likely to struggle to pass the HRA test, as it will be difficult to 'demonstrate beyond reasonable scientific doubt' that birds associated with the SPA/Ramsar site will not be vulnerable to impacts (such as disturbance or wind turbine/vehicle collision). This is because the known foraging distances for hen harrier and peregrine from the literature are 10km and 18km, respectively.'*

It's clear that the HRA Appx B, subtitled *'Implications for the Natura 2000 network of Priority Areas of Solar and Wind Energy development across Wales – HRA Report'*, fails to accurately map the required buffer for this SPA against the locations of refined PAs. In consequence, the HRA does not recognise the fact that PAs and parts of PAs lie entirely within the foraging buffer of the SPA and **the implications of the PAs on the Natura 2000 network are therefore substantially underreported.**

Rhosgoch Bog SAC: See 2 (c) above: the inclusion of protected sites such as Rhosgoch Bog SAC (in PA 7) entirely within PAs means that any requirements for buffering of these sites are entirely unrecognised in the identification of the PAs, as is protection of the sites themselves.

Note: We have selected the Elenydd-Mallaen SPA and Rhosgoch Bog SAC as examples for the purpose of this critique. There may be other instances of similar errors and inconsistencies.

INTEGRATED SUSTAINABILITY APPRAISAL REPORT

1. ISA Table A-1 'Comparison between NDF Preferred Option Objectives and the National Sustainable Place Making Outcomes (PPW)' (pp70-71) is unexplained

This table has two columns and appears to have the function of relating *'NDF Preferred Option Objectives'* to their corresponding *'Key Planning Principles and National Sustainable Placemaking Outcomes'* but the following categories of *'NDF Preferred Option Objectives'* have no counterparts:

- Natural Resources, Circular Economy and Flooding,
- Welsh Language,
- Health & Well-being,
- Digital Infrastructure and
- Cohesive Communities.

What does this mean? Are there no place making outcomes for these objectives? The table requires either completion, or explanation.

OTHER EVIDENCE DOCUMENTS

1. Significant divergence from Preferred Option, out for public consultation in 2018

Distinctive and Natural Places p19, DN3: *'Nationally important landscapes, seascapes, nature conservation sites and habitats will be identified. Opportunities for growth, expansion, greater connectivity and enhancement will be identified.'*

Productive and Enterprising Places p20, Spatial Issue PE1: *'Nationally important energy generation, storage and distribution infrastructure will be identified. Locations for new national scale renewable and low-carbon energy generation, storage and distribution infrastructure will be identified.'*

PE1 Strategic Policy Direction: *'NDF policies will support the delivery of the Welsh Government's renewable energy targets including 70 per cent of electricity consumed in Wales from Welsh renewable sources by 2030 and locally owned renewable energy capacity in Wales, reaching 1 GW by 2030. Policies will support generation through a range of renewable and low carbon technologies, storage and distribution infrastructure.'*

These instances (our underlining) illustrate some of the unacceptable divergence between the documents consulted in 2018 and the draft National Development Plan now out for consultation, as these themes have not been brought forward and developed within the current draft.

2. Cumulative mapping within Regional Studies is not used to inform definition or refinement of PAs <https://gov.wales/national-development-framework-study-regions-and-rural-areas>

Map 07 Renewable Energy, dated 1st March 2019, is based on REPD database information dated 1st April 2018, considerably out of date even when the map was prepared, and not always reliable. Resulting errors in the mapping include, to give a few examples:

1. Cefn Croes WF omitted
2. Brechfa omitted WF - commissioned Jan 2019
3. Brenig WF omitted - commissioned Jan 2019
4. WFs under construction, Mynydd y Gwair, Clocaenog and Bryn Blaen are all omitted

This, albeit inadequate, mapping has been produced for stakeholder workshops, but there is no mapping of existing and consented RE within the ARUP documents to inform an understanding of cumulative issues, very significant, for example, between PAs 5 and 6, and consequent refinement of PAs.

ARUP 2 Appendix I: Notes of stakeholder meeting – NRW raised the issue of the distress which may result from a cumulation of developments, but this is dismissed with a promise of planning guidance, instead of the investigation of existing developments and consents. **Any planning guidance is unlikely to be formulated and in force by the time the NDF itself is operative.** Cumulative studies should have formed an integral part of the designation of PAs.

(NB Attendees at this meeting also propose that a ‘very public conversation evaluating the benefits of increased renewable development against potential landscape impacts’ although this would be entirely pointless unless the results were incorporated into a revised NDF.

3. Failure to reference National Marine Plan

Planning Act Wales says: *"The Framework must explain how, in preparing the Framework, the Welsh Ministers have taken into account relevant policies set out in - a) any marine plan adopted and published by them under Part 3 of the Marine and Coastal Access Act 2009."*

The National Marine Plan was published on 12th November. Themes within the Plan will have been well developed while the dNDF was in preparation. Failure to reference the Marine Plan within the dNDF renders the RE strategy within the dNDF fundamentally incoherent. Extracts from draft Marine Plan:

603. *'The Welsh Government supports the nuclear energy sector, in particular development on existing sites such as Wylfa Newydd. Whilst nuclear energy is an important means of energy supply in Wales, it has not been a major consideration of this plan with most strategic decisions taken at a UK level and guided by the relevant National Policy Statement.'*

608. *'Welsh Government has considered alternatives to the need for large scale deployment of marine renewable technologies and concluded that, whilst opportunities such as reducing demand, supporting other technologies and supporting wider connectivity will make important contributions to climate change mitigation, there is a strategic need to develop marine renewable energy generation capacity.'*

609. *'The Welsh Government is therefore strongly committed to unlocking the energy potential from Welsh waters.'*

617. *'Wind energy is a proven and strategically important energy technology and the costs of deployment are decreasing rapidly, making this a viable and attractive renewable energy option for the Welsh plan area. There is considerable scope for further large-scale offshore wind activity in Welsh seas given the extent of the potentially viable resource, the geography of the seabed, and developing technologies. Further sustainable offshore wind developments in the plan area are strongly encouraged including extensions to existing projects.'* [Our underlining]

Any rational national low carbon and renewable energy strategy must bring together onshore and offshore components and different technologies into a coherent whole. Hence no doubt the Planning Act requirement above.

The following statement within the National Marine Plan should also be developed, explained and justified within the dNDF:

610. *'Wales is already a net exporter of electricity and the Welsh Government aims to further improve this status within a diversified supply ...'*

4. WELSH ASSEMBLY commissioned research on RE and emissions strategy not followed

'Addressing the Climate policy Gap in Wales' July 2019 [Author Dr. Filippas Proedrou, copies available from the National Assembly]: This National Assembly Research Briefing document should have and been key piece of evidence informing the dNDF approach to RE development. The briefing calls *'for bolder climate targets in line with climate science and proportionate carbon budgets to the effect of carbon neutrality before 2050'* within the context of Welsh legislation, including the Well-being of Future Generations Act.

P2 Executive Summary: *'The energy transition can take a predominantly top-down and centralised, or bottom-up and decentralised form. While both dimensions are indispensable, **the Well-being of Future Generations Act mandates strong citizen engagement in the co-production of energy and participation in energy decision-making, and hence conveys a strong bottom-up flavour to the energy transition. At the same time, climate performance will be more effective if it embraces the majority of the population in this grand endeavour.***

This is reiterated on p22: *'The energy transition must have a clear bottom-up component, premised upon citizen engagement and participation in both energy production and decision-making. This still leaves ample room for centralised clean energy production schemes.'*

This is the clearest possible advice that Welsh Government's own legislation obliges it to take a very different, bottom-up, consensual, approach to RE generation and emissions reduction, and that doing so will in fact be more effective.

PROCEDURAL ERRORS IN RUNNING OF CONSULTATION

1. Changes to documents made during consultation period:

Revised HRA and appendices, and revised ISA, were placed on the consultation website on 28th and 21st August respectively, we understand. Members of the public were notified, where this was possible, on 17th October. The consultation period was extended by two weeks to reflect the date of correction, not the date on which (some of) the public were made aware of substantial changes having been made to key documents mid-consultation. It is doubtful whether any public announcement of the changes and explanation of what form the amendments took would have been made had CPRW not written to Russell Dobbins on 4th October to express extreme concern over unannounced changes to documents mid-consultation.

Many changes appear to be the correction of errors. Others are more fundamental, for example the replacement in the ISA of: *'the NDF seeks to maximise onshore wind and solar energy generation potential, whilst minimising the potential impact on the most sensitive environmental and cultural assets. However, it is accepted that large scale renewable energy development can be visually prominent'* by *'there is a presumption in favour of large scale on-shore wind and solar energy generation potential in the Priority Areas for Renewable Energy, an acceptance of landscape change and a focus on maximising benefits and minimising impacts. However, 'large scale wind and solar renewable energy development can be visually prominent.'*

In sum, changes set out in 'Extension of Consultation on Draft National Development Framework: Changes to Habitats Regulations Assessment and Integrated Sustainability Appraisal Report' dated 17th October are significant in both number and impact, and were introduced mid-consultation. This is unacceptable without restarting the consultation.

2. ARUP 1 AND 2 – failure to publish, failure to publish on consultation website

These two key documents, evidencing the methodology underpinning Welsh Government's designation of 1/5 of Wales's land area for lax planning protections and the encouragement of industrial scale development across swathes of populated rural Wales, were not initially published at all. They were only made publically available on the request of CPRE Shropshire. They have never been published on or prominently linked to the consultation website. This is a very strange way to conduct a public consultation on policy set to radically transform life in rural Wales.

BIBLIOGRAPHY:

AECOM Toolkit: Planning for Renewable and Low Carbon Energy - A Toolkit for Planners (September 2015)

(<https://gov.wales/publications>)

AECOM Final Report: Powys Renewable and Low Carbon Energy Assessment 2017 (May 2017)

<https://en.powys.gov.uk/article/5365/Supporting-Evidence>

AECOM Final Report: Powys Renewable and Low Carbon Energy Assessment 2017 – Maps, Companion Report (May 2017) <https://en.powys.gov.uk/article/5365/Supporting-Evidence>

ARUP 1: Welsh Government Assessment of onshore wind and solar energy potential in Wales Stage 1 - Development of Priority Areas for Wind and Solar Energy (March 2019)

ARUP 2: The Welsh Government Assessment of onshore wind and solar energy potential in Wales Stage 2 - Refinement of Priority Areas for Wind and Solar Energy (June 2019)

PPW10: Planning Policy Wales Edition 10 (December 2018)

TAN 8: Planning Policy Wales Technical Advice Note 8: Planning for Renewable Energy

GLOSSARY:

ALC: Agricultural land classification

AONB Area of Outstanding Natural Beauty

BMV: Best and most valued

CAA Civil Aviation Authority

LANDMAP V&S LANDMAP Visual & Sensory Layer

LLPG Local Land and Property Gazetteer

MOD Ministry of Defence

NATS National Air Traffic Services

NGO non-governmental organisation

NP National Park

OS Strategi Ordnance Survey Open Data dataset

PA Priority Area

RAMSAR wetlands designated under the Ramsar Convention

RE renewable energy

REA Renewable Energy Assessment

RIGS Regionally important geological and geomorphological sites

SAC Special Area of Conservation

SAM Scheduled Ancient Monument

SENTA Sennybridge Training Area

SPA Special Protection Area

SSSI Site of Special Scientific Interest