

From: [Geoffrey Weller](#)
To: [NDE](#)
Subject: My Response to the draft National Development Framework
Date: 29 October 2019 10:54:16
Attachments: [National Development Framework Response by GCW.docx](#)

Dear NDF Team

Please find attached my response to the draft National Development Framework in .docx format.

I have followed the general layout of your Consultation Document.

I am responding in a personal capacity, and only to the following sections:

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

15. Further comments

16. Are you... ?

Please acknowledge receipt of my response document.

Yours faithfully

Mr Geoffrey Weller BSc CEng FIET

[REDACTED]
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[REDACTED]
[REDACTED]
[REDACTED]

National Development Framework 2020-2040
Consultation Draft: 7 August – 1 November 2019

Consultation Response Form

Your name	Mr Geoffrey Weller BSc CEng FIEE
Your address	[REDACTED]
Preferred contact details (email/phone/post)	[REDACTED]
Organisation (if applicable)	

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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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?

1. Take account of the value of the landscapes of mid Wales in the context of Welsh heritage, local economy and general well-being.

The NDF treats the Uplands in mid Wales as an exploitable resource, accepting their degradation to a semi-industrial landscape and the destruction of their character. There is no evidence given in the NDF about the value of landscapes in and around the Priority Areas. The Welsh Government ought to regard the landscape of the Uplands as part of our Welsh heritage, as it does with the Welsh Language. Communities living here respect the landscape as part of their cultural legacy. The goals outlined in the 'Well-being of Wales'¹ clearly recognise the importance of communities and culture.

Thinking similar to that behind TAN8 (which presumably is still concurrent with the NDF), denigrates the Uplands to merely being an instrument to assist decarbonisation. The visibility maps published in the 'Assessment of on-shore wind and solar energy potential in Wales' by the Welsh Government amount to an admission that visual damage would be caused over a wide area. There is no reference in the NDF of the extensive tourism industry that depends on the protection of our landscapes. There is no regard for preserving the economic, visual and recreational environment in and around the Priority Areas for future generations.

Unfortunately, our own Welsh Government regards adverse impacts on our native landscape, environment and communities as being subordinate to the generation of even a small amount of renewable energy by private companies. An example is the recent decision by a Minister of the Welsh Government to allow the Hendy Windfarm, ignoring the findings of the Government's own Planning Inspector².

2. Outline the likely ecological consequences of the extent of windfarm and solar farm development envisaged.

The NDF places great emphasis on onshore windfarms and solar farms as the means of combating climate change, unfortunately without putting any figures on capacity requirements, costs, or consequences. The document illustrates the immense land areas designated for energy generation in disproportionate detail compared with, for instance, the areas for the proposed National Forest. However, the possible ecological consequences of such a major change of land use are not stated. The effects of development on peatlands (a valuable sink for CO₂), biodiversity, groundwater and soil are all disregarded.

¹ <https://gov.wales/well-being-wales-2019>

² <https://gov.wales/sites/default/files/publications/2019-04/ATISN13074doc1.pdf>

3. Give more detail about the power transmission infrastructure that would be needed to support large-scale windfarms and solar farms.

The NDF does not recognise the extent of the infrastructure required to support large-scale onshore windfarms and solar farms. EHV substations, overhead power lines and associated pylons would have to be constructed across mid Wales, one of the last remaining parts of the UK free of such visual intrusions. Landscape change due to new power lines and pylons would occur well outside the Priority Areas, and this consequence is not mentioned in the NDF. These power lines would also have to cross our neighbours' countryside in north-west Shropshire.

4. Provide estimates of future capacity requirements of renewable and non-renewable generation, taking into account grid stability, intermittency of renewables, requirements of electric vehicles and increasing demand.

Stability of the grid requires that a certain minimum proportion of generation must be produced by synchronous plant that has rotational inertia³, such the alternators contained in thermal power plants (mainly gas-fired and nuclear). This is to avoid the risk of an unexpected system switching event causing grid instability and 'blackouts'. Wind and solar generators do not provide rotational inertia, and as a result, the projected maximum wind and solar generation must be co-ordinated with a proportionate amount of energy from synchronous plant (such as gas-fired or nuclear). Unfortunately, The NDF recognises neither the amount of energy required of renewable sources in future, nor that required of any additional thermal or other plant.

In 2017, the Welsh Government announced Renewable Energy Targets, including generating 70% of Wales' electricity consumption from renewables by 2030⁴. This percentage of renewables probably represents a reasonable maximum if grid stability is to be maintained. However, the intrinsic variability and intermittency of renewable sources means that there can be prolonged times when there is not enough renewable energy to satisfy the demand for power – and demand is likely to increase in future.

For instance, consider anticyclone conditions when there is no wind for the windfarms - a situation has sometimes lasted continuously for several weeks at a time. Under these circumstances, an alternative source of electrical energy must be found. Unfortunately, the NDF gives no estimation of the future energy capacity required from renewable sources, and there is no mention of the need for any additional non-renewable plant.

The NDF sees electric vehicles as the means of reducing emissions of CO₂ from transport. Electric vehicles would increase the demand for electrical energy compared with present day figures, and vehicles would normally be on charge during night hours, when solar energy is unavailable. If this should happen when there is also no wind blowing, then thermal power plant or some other means must provide the extra capacity. The NDF has no mention of how any extra capacity would be provided.

In connection with the intermittency of renewables, it is often cited that renewable energy could be stored during times of excess, and used as necessary to make up any temporary deficiency. Although

³ <https://www.sciencedirect.com/science/article/pii/S0360544219308564>

⁴ https://gov.wales/sites/default/files/publications/2019-06/low-carbon-delivery-plan_1.pdf

short-term storage could certainly help with system stability, there is no known method of storage sufficient to provide energy for even 24 hours of anticyclone weather. Batteries and hydrogen storage are among various proposals, but there is no evidence that these could be developed as a solution to sustained periods of non-availability of renewables, at least not within the timescale of the NDF.

5. Give due consideration to other renewables as an alternative to onshore generation.

The cost of offshore windfarms is falling rapidly, and their rapid development could easily displace the need for further onshore windfarms. Offshore windfarms cause less damaging landscape change and need much less power line infrastructure on land.

Tidal power, though not available during all states of the tide, has the advantage that its cycle of generation can be predicted reasonably accurately. This gives it a distinct advantage over wind power.

The NDF should acknowledge these points.

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?

1. Improve the openness and availability of public consultation and the participation of local residents and businesses in formulating the NDF. For instance, this could be by using local library exhibitions, and question and answer sessions with a panel of Welsh Government planning consultants.

The launching of the draft NDF a few weeks ago came as a complete surprise to me and most of the people of mid Wales. Apparently, work had been taking place on the NDF for several years, but the public has been largely unaware. I believe much more effort needs to go into public awareness of the NDF because of the potential for Renewable Energy Policies 10, 11 and 12 to have a massive effect on the residents and businesses here.

The foreword by Julie James AM, Minister for Housing and Local Government, says that the drafting of the NDF has benefitted from the involvement and contribution of stakeholders throughout its preparation. However, the selection of stakeholders seems to have been severely restricted. Even our local Assembly Member, Russell George, was not consulted before the draft NDF was launched.

The NDF diminishes the ability of residents to participate in decisions that directly affect them. Instead, the Welsh Government is transferring power to Ministers who have little understanding of local matters, including things that affect inhabitants' livelihood, environment, heritage, and general wellbeing.

In particular, the designation of the Priority Areas for wind and solar energy threatens to override the Local Development Plan 2011 - 2026 for Powys. The LDP was formulated with a meticulous consultation process supervised by a representative of the Welsh Government, who tested the LDP for compliance with Welsh, UK and international legislation. The Welsh Government has already ensured that the LDP met all relevant Welsh Government requirements. In respect of renewable energy policy, where the NDF conflicts with the LDP in future, resolution seems to be by compulsion by the Welsh Government, overriding local democracy.

16. Are you...?

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