From: Peter Batten & Denise Lloyd [redacted]
Sent: 13 January 2015 10:51
To: David Cowie; devplans
Subject: Onshore wind energy: supplementary guidance
Attachments: ClimateXChange survey 2.pdf

Re
www.highland.gov.uk/info/178/local_and_statutory_development_plans/147/onshore_wind_energy_supplementary_guidance.

The above consultation was drawn to my attention over the weekend, and I understand you are now taking late responses from some interested parties. My thoughts follow.

Is there a mailing list for further THC consultations in response to SPP 2014 please; if so, can I ask to be added to it? Thank you.

Q1. What do you consider to be the minimum scale of onshore wind development that our spatial framework should apply to?
The spatial framework should extend down to single turbines above a suitable minimum size. It seems inconsistent that multi-turbine installations SE of Ben Wyvis are considered unacceptable, but that several single turbines of the size of the one at Yellow Wells, affecting similar sightlines, may be considered acceptable.

Q2. Apart from the matters identified in Table 1 of SPP, what other considerations do you think we should take into account when identifying where there is strategic capacity for wind farms and areas with the greatest potential for wind development? And what information is available to help us consider those issues?
SNH have previously objected at sites visible **from** National Scenic Areas and **backdropped** by Special Landscape Areas. Their thinking seems to have some merit, and remains relevant at case level under SPP para 169 bullet 6. SNH's opinion on how this might be reflected in strategic capacity terms would be valuable. See also Q5 comments re isolated coast.

Q3. What criteria do you think we should consider in deciding all applications for wind farms of different scales, including extensions and re-powering? And what information is available to help us set those criteria?
I attach the second survey (Nov/Dec 2014) of ClimateXChange's review of the carbon calculator (SPP para 169 bullet 8 refers). See esp. questions 9-18, 22, 29. Hopefully THC has contributed to this review; if not, further info is available from Professor susan.waldron@glasgow.ac.uk. If the outcome includes a more formal carbon balance analysis for wind farms below 50 MW, THC should develop (in consultation with the Scottish Govt) criteria for acceptable "expected" and "maximum" carbon payback periods.

Q4. Do you think that defining clusters of wind energy developments and important gaps between them is useful to help guide where further development may be most appropriate?
Some degree of clustering appears to be an inevitable consequence of the constraints in SPP 2014.

Q5. Given that national policy does not allow us to include the results of the Cumulative Landscape and Visual Assessment of Wind Energy in Caithness (the CLVA) in the spatial framework, in what ways do you think we should take it into account in in our plans and guidance?
It is unfortunate that confirmation of Wild Land Area 39 came late before publication of the CLVA, and that its previous existence as a proposed CAWL was apparently not taken into account by LUC. However the inclusion of isolated coast in the CLVA rectifies a limitation of SNH's wild land mapping, and remains relevant at case level under SPP para 169 bullet 6. Although CLVA Table 5.3 has some relevance beyond Caithness, it is difficult to see how Highland-wide policies and plans can reflect a study specific to Caithness, whose topography differs from that of most of Highland. What happened to the Ardross study?

Q6. If you have any general comments about the CLVA, please give them here.
It is difficult to comment further on the CLVA at such short notice. Furthermore I can only find the CLVA text online - have the figures been published?

I hope the above will be of some help.

Kind regards
Peter Batten

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Survey 2: Carbon assessments for development activity.

Introduction

1 / 6 17%

The Scottish Government has made a commitment that by 2020, the equivalent of 100% of Scotland's electricity consumption will be generated by renewable sources. A clear aspiration within this commitment is that renewable energy developments will assist to reduce Scotland's carbon emissions. In order to better understand the overall carbon saving benefits of such developments, it is important to consider the carbon emissions generated during their construction.

Many areas considered appropriate for the development of renewable energy projects in Scotland are situated on high carbon organic soils such as peat. These soils have the ability to store large quantities of Greenhouse Gases (GHG), which can be released during the development of renewable energy projects. These emissions are an important factor in assessing the lifecycle emissions of a renewable energy development.

Since 2011, applications for the development of wind farms of 50MW or greater on peatland sites have been expected to use the Scottish Government's Peatland Carbon Calculator as part of their environmental impact assessment. This tool provides a life cycle assessment of the GHG emissions and carbon payback from wind farm developments. The information provided by the calculator helps Ministers and Planning Authorities to determine if a planned wind farm should be developed.

ClimateXChange, on behalf of SEPA and the Scottish Government, has commissioned a consortium of researchers to review the use of the existing C calculator and gather stakeholder opinion on the potential for wider assessment of net carbon emissions.

The first survey (active during July 2014) has reviewed the current use of the C calculator. This second survey explores more broadly the application of a carbon assessment tool to other developments which are likely to have carbon impacts, including the potential for extending the existing C calculator to wind farm developments smaller than the existing 50 MW threshold.

The information collected will be held by the University of Glasgow, until the final report on this project is completed and then submitted to ClimateXChange. All data is anonymous unless you have chosen to identify yourself - this is a selective option and helpful to us to facilitate follow-up interviews about important points you may raise.

Please pass this survey link to additional parties to whom it may be relevant. However if you are responding on behalf of an organisation, please liaise with your colleagues to submit only one

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representative unit organisational survey response only. We thank you for the time you spend completing this survey. **The survey will close on 12th December 2014.**

If you have further questions about this survey, please contact Prof. Susan Waldron on 0141-330-2413 or Susan.Waldron@glasgow.ac.uk

University of Glasgow Carbon Landscapes and Drainage (Knowledge Exchange Network – www.clad.ac.uk)
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Survey 2: Carbon assessments for development activity.

Section 1: Understanding whether and why you use a carbon assessment tool:

2 / 6 — 33%

This section is to generate for us an understanding of the relationship of the respondents with C assessment tools:

1. Please identify the <u>main</u> capacity in which you use or would intend to use a C assement tool:

- ○ Local authority planner
- ○ Planning or environmental consultant who acts on behalf of developers
- ○ Developer
- ○ Technical specialist based in a central government body involved in validating the calculator
- ○ Technical Specialist based elsewhere and involved in validating the calculator (please specify in the box below entitled other)
- ○ Policy specialist based within government or a government body
- ○ Consultee in the planning process
- ○ Third sector organisations considering how an effective C assessment tool can meet a range of policy objective (e.g., climate change targets)
- ○ Other (please specify)

2. Please identify how you use a C assessment tool:

- ○ I use a C assessment tool personally
- ○ I contract others to use it for me
- ○ Both
- ○ I use the validated results of a C assessment tool to inform a consent decision
- ○ I am aware of C assessment tools but have not yet used one
- ○ I use the validated results of a C assessment tool to inform my view as a consultee in the planning process
- ○ I was not previously aware that C assessment tools existed

3. If you have used or are familiar with a C assessment tool, please identify which one below (tick all that apply):

- ☐ The C calculator for > 50 MW wind farms on peatland
- ☐ The SPACE tool
- ☐ Another (please name others in this category below)

[redacted]

4. Please specify if your operations concern countries other than Scotland (no need to complete if you work only in Scotland).

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Section 2: Meeting Scottish Government policy goals through carbon assessment of developments

3 / 6 50%

Our questions in this section focus on Scottish Government policy goals. However, if you have experience of beyond Scottish Government policy please use question 7 to share this with us. Scottish Planning Policy (Scottish Government, 2014) states that where peat and carbon-rich soils are present, applicants should assess the likely effects of development on carbon dioxide emissions (paragraph 205). It also states that considerations for energy infrastructure are likely to include impacts on carbon-rich soils using the carbon calculator (paragraph 169).

In order for Scotland to make progress in reducing emissions in line with targets set under the Climate Change (Scotland) Act 2009, and to meet associated national planning policy aspirations, the use of carbon assessments may need to be extended. Please comment on whether you consider extending the use of a C assessment tool to developments **other than > 50 MW wind farms** would support Scottish Government commitments to achieve the following:

5. Meeting a target of a net Scottish greenhouse gas emissions account for 2050 of at least 80 % lower than the defined baseline.

- ○ Yes
- ○ No

Please explain your answer

6. Delivery of 100 % of electricity demand equivalent and 30 % overall energy demand from renewables by 2020 (Energy Routemap, s. 1.2.3).

- ○ Yes
- ○ No

Please explain

7. Please identify other policy goals (Scottish or international directives) that you consider a C assessment for development may help address and explain your choice:

8. Please identify any challenges to policy objectives that you consider may arise from applying a C assessment to a wider range of developments. Please explain your thinking:

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Survey 2: Carbon assessments for development activity.

Section 3: Exploring the development activities to which a C assessments could be extended.

4 / 6 67%

Here we would like to explore how a C assessment might contribute towards meeting the strategic policy goals (identified in section 2) through practical implementation mechanisms.

Carbon Assessment tools - A variety of tools have been developed for such carbon assessments. One example is the Carbon Payback Calculator ("C calculator"), designed for Scottish Government 'to assess, in a comprehensive and consistent way, the carbon (GHG emissions) impact of wind farm developments' (Scottish Government, 2011). This tool was originally developed to inform the decision-making process for wind farm proposals over 50 MW in scale requiring consent under section 36 of the Electricity Act 1989, and located on areas of peatland. Further information on this tool can be found here.

A second example of a C assessment tool is the Spatial Planning Assessment of Climate Emissions (SPACE) tool. This estimates greenhouse gas emissions for different development scenarios and enables planners make informed decisions about the relative greenhouse gas implications of alternative planning policies. Further information on this tool can be found here.

Development management process - Existing regulations within the development management process require that an Environmental Impact Assessment be prepared for any development that may have significant environmental effects. Further information on the process can be found in the Scottish Planning Advice Note 1/2013. A carbon assessment could form part of this EIA.

Several development scenarios are now presented for which a carbon assessment **could** be required. For each scenario, we seek your opinion on the possible positive and/or negative outcomes of requiring a C assessment. Your views are important as they will help inform consideration of whether to extend the application of carbon assessment and how this might work best.

9. Scenario 1: All developments that have been determined to require an EIA under the Environmental Impact Regulations 2011 (i.e., developments which might have a significant environmental impact that must be assessed in advance of a decision).

Positive outcomes

Negative outcomes

10. Scenario 2: Only those developments proposed on peat and carbon-rich soils that would require planning consent through a local planning authority and which have been determined to require an EIA.

Positive outcomes

Negative outcomes

11. Scenario 3: <u>All</u> developments proposed on peat or carbon-rich soils that require planning consent through a local planning authority.

Positive outcomes

Negative outcomes

12. Scenario 4: Planning authorities are given the discretion to request that a carbon assessment be applied to any development.

Positive outcomes

Negative outcomes

13. Scenario 5: Carbon assessment (for example using the C calculator) be extended to apply <u>ONLY</u> to onshore wind farms located on peat or carbon-rich soils which are below the 50 MW generating capacity threshold for consent under the Electricity Act.

Positive outcomes

Negative outcomes

14. If only one of the scenarios identified above were to be selected for carbon assessment, which would be your preferred option and why?

15. Please tell us if you would want additional development scenarios, not identified above, for which carbon assessment could or should apply. Please explain why you have selected that scenario.

16. Are there criteria you consider should apply in deciding whether a proposal might qualify for a carbon assessment? Please explain.

17. Having considered each of these scenarios, and the challenges and opportunities that they present, do you think there are any arguments in favour of <u>no change</u> to the current position – i.e. carbon assessment, through the C Calculator, applies <u>only</u> to onshore wind

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farms located on peat soils and which are above 50 MW generating capacity. Please explain.

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5 / 6 83%

18. We want to explore the potential resource requirement associated with extending C assessment. This question will complement additional research from existing data sources. Considering each of the scenarios above - please estimate the volume of annual submissions that you envisage might be associated with generating / assessing a carbon assessment, were it to be mandatory. If no applications, please input 0.
If uncertain of your future workload, you could base your response on the number of applications you have been concerned with in the past 24 months that might fall within each of these categories for C assessment:

All developments that have been determined to require EIA.	
Developments proposed on peat and carbon-rich soils AND that have been determined to require an EIA.	
All developments proposed on peat or carbon-rich soils that require planning consent through a local planning authority	
Planning authorities be given the discretion to request that a carbon assessment be applied to	

[redacted]

any development Carbon assessment (for example using the C calculator) be extended to apply **only** to on shore wind farms located on peat or carbon-rich soils which are below the 50 MW generating capacity threshold for consent under the Electricity Act

19. Does your answer to Q18 reflect backcasting?

- ○ Yes
- ○ No

20. Does you answer to Q18 reflect forecasting?

- ○ Yes
- ○ No

21. We would be grateful for your thoughts, if any, on the use of any existing C assessment tools in this context, for example, the 'C Calculator', the SPACE tool.

22. Submissions of the existing C calculator are currently validated by SEPA. If it is assumed that a validation process would be required for extension of carbon assessment, which of the following options would be your preferred approach? It would be helpful if you can provide a reason for your selection.

- ○ An alternative Scottish Government/agency body covering all submissions for Scotland
- ○ Local Government planning authority
- ○ A commercial contractor
- ○ Self-validation linked to periodic independent review
- ○ Another (please identify below)

Explain your choice please, considering especially the integrity of the validation. If you identified another validating body please include its name here.

[redacted]

23. If you consider the validation process of a C assessment to be unnecessary, or can identify a more efficient mechanism for validation, please explain here, and give details:

24. If the validation was to be conducted within your own organisation, what support would be required to meet the increased demand identified under question 14? We have suggested some options below. Please use a sliding scale to indicate whether you consider these unnecessary (1), beneficial (3) or vital (5)

	1 (Unnecessary)	3 (Beneficial)	5 (Vital)
Training on the C calculator will be required	○	○	○
Regular support & continuing training to share best practice & ensure consistency	○	○	○
A robust mechanism for communicating updates to the calculator	○	○	○
Additional technical expertise should be available to provide support during the validation process	○	○	○

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Survey 2: Carbon assessments for development activity.

Section 4: Understanding improvements / addition to the current C-calculator.

6 / 6 100%

This section focuses on the existing carbon payback calculator for wind farms, considering specifically validation and improvements / augmentations to the C calculator.
If you have not used the calculator you may not be able to answer all questions in this section, so please these leave blank.

25. Would you be interested in a 'lite' version of the C calculator? This could be designed to apply a simplified approach using the most conservative values (i.e. leading to conservative payback time)□and□should the result indicate an ineffective payback time□a full analysis using the user input tool would be required as part of any application for consent.

- ○ Yes
- ○ No

Comments

26. At what stage(s) in the process could a 'lite' version best be applied and why? For example□project initiation or screening stage?

27. Are there input variables in the current C calculator where you think there should be the capacity to input more detailed descriptors? If so□please identify these and explain why:

[redacted]

28. In the first survey concern was expressed over some difficulties experienced in the collection of some data. Please indicate, on a sliding scale the level of difficulty you have found in collecting the following data (scale 1-5, where 1 is not difficult and 5 is the most difficult):

	Not Difficult (1)	Moderately Difficult (2)	Most Difficult (3)
Average water table depth	○	○	○
Average drainage distance	○	○	○
Bulk density of peat	○	○	○
Restoration water table depth before wind farm construction	○	○	○
Restoration water table depth after wind farm construction	○	○	○
Time for restoration	○	○	○
Average temperature	○	○	○

If there are important parameters missing from the above list please identify them and indicate where they would sit on the sliding scale of difficulty.

29. Scottish Planning Policy (SPP) indicates that a local development plan should include a spatial framework for onshore wind developments (SPP, para 161), and identifies 'carbon-rich soils, deep peat and priority peatland habitat' as requiring significant protection. In these areas it is recognised that wind farms may be appropriate in some circumstances, but further consideration will be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation.

[redacted]

Would it be useful to have a capacity in the tool that specifically asked for detail on how protecting these areas had been considered in the development process?

- ○ Yes
- ○ No
- ○ Comments

30. For those who have used the wind farm C payback calculator:
The results of the calculator are currently presented in an excel spreadsheet. Do you have any comments on how presentation of the results might be improved to aid interpretation and ease of use in the development process?

31. If you are willing to be contacted further to discuss any responses please give your name email and organisation below. The information you give is confidential, and will only be used to contact you

Name	
Company	
Email Address	
Phone Number	

Thank you for your time. These results will be collated and summarise in a report that will be distributed for information in 2015. The results of both surveys will be presented in a stakeholder

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workshop and we will be extending open invitations for this circa January 2015. If you have any questions please contact Prof. Susan Waldron

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