



## SHADOW FLICKER EFFECT

### CONSULTATION QUESTIONNAIRE

All information provided in this questionnaire will be treated as strictly confidential and will not be passed to any third parties. Analysis based on the information provided will be referred to in generic trends, and no site-specific or company-specific details will be published.

The closing date for questionnaire submissions is:  
FRIDAY 10<sup>th</sup> DECEMBER 2010

Please complete any sections of this questionnaire that are relevant to your area of expertise or experience.

Please continue to next page...

## CONTACT DETAILS

<b>Authority Name</b>	
-----------------------	--

<b>Name</b>	
<b>Position / Job Title</b>	
<b>Email Address</b>	
<b>Telephone Number</b>	
<b>Postal Address</b>	

Please continue to next page...

## PRE-PLANNING ADVICE

**Q1: Does your department / authority offer pre-planning advice to developers of onshore wind energy developments?**

 Yes No

**Q2: If 'Yes', does the pre-planning advice include reference to shadow flicker effect?**

 Yes No

**Q3: If 'Yes', does the pre-planning advice offer guidance on how a developer should assess the shadow flicker effect?**

 Yes No

Please continue to next page...

## CURRENT GUIDANCE

Link to: 'Planning Advice Note 45 (PAN45)' shadow flicker text

**'10 x Rotor Diameter' rule-of-thumb**

PAN 45 states:  
 "In most cases however, where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), "shadow flicker" should not be a problem."

**Q4: Do you consider the '10 x Rotor Diameter' rule an appropriate assessment area for shadow flicker reports?**

Yes
  No

**Q5: Would an alternative calculation method for the assessment area be preferable to the '10 x Rotor Diameter' rule?**

Please select

<b>Other</b>	

**Shadow Flicker Effect outside properties**

PAN45 states:  
 "[Shadow Flicker Effect] occurs only within buildings where the flicker appears through a narrow window opening."

**Q6: Should shadow flicker assessments be limited to the interior of residential buildings?**

Yes
  No

**Q7: If 'No', should the following receptors be included in shadow flicker assessments?**

Please tick

- Road users
- Footpath users
- Bridleway users
- Non-residential properties (eg. offices, warehouses, etc)
- Other receptors - *please specify in 'Other'*

<b>Other</b>	
--------------	--

**Q8: Please elaborate on your reason(s) for including additional receptors in shadow flicker assessments.**

<b>Please elaborate</b>	
-------------------------	--

**Quantitative Guidance**

In recent years, regulations have emerged in other countries proposing a quantitative approach to assessing shadow flicker. This approach sets a limit on the duration that a receptor can be exposed to shadow flicker effects.

**Q9: What is your opinion on the value of adopting quantitative guidance on shadow flicker effect?**

<b>Please comment</b>	
-----------------------	--

**Q10: Please include any other comments relating to amendments / omissions / additions to current guidance below.**

<b>Please comment</b>	
-----------------------	--

Please continue to next page...



## BEST PRACTICE SHADOW FLICKER ASSESSMENTS

### 'Worst Case Scenario'

The 'Worst Case Scenario' assumes:

- Continuous sunshine during daylight hours;
- Continually rotating turbine blades;
- No vegetation or other obstacles are screening the receptor;
- The wind turbine rotor plane is always perpendicular to the receptor and sun.

**Q11: Should shadow flicker assessments adhere to the 'Worst Case Scenario' detailed above?**

 Yes No

**Q12: If 'No', please specify how they should differ and your reason for proposing an alternative approach.**

Please specify	
----------------	--

**Q13: Should field data or site-specific environmental data (eg. meteorological data, screening effects, etc) be included in shadow flicker assessment models?**

 Yes No

**Q14: If 'Yes', please elaborate below:**

Please elaborate	
------------------	--

Please continue to next page...

## PROPOSED MITIGATION MEASURES

**Q15: When considering a planning application, what mitigation strategies for predicted shadow flicker effects do you consider appropriate?**

Please tick

- Careful site design to minimise / eliminate impact
- Turbine shut-down strategy
- Installation of blinds
- Landscaping / vegetation screening
- Other - *please specify in 'Other'*

<b>Other</b>	
--------------	--

**Q16: Has your department / authority had any involvement in assigning a planning condition relating to shadow flicker to a consent for an onshore wind energy development?**

Yes

No

**Q17: If 'Yes', please provide as much detail as possible about the planning condition below.**

<b>Please comment</b>	
-----------------------	--

Please continue to next page...

## OPERATIONAL EXPERIENCE

### PLEASE NOTE

As with all information provided in this questionnaire, data collected in the following section will be treated as strictly confidential. Analysis based on the information provided will be referred to in generic trends, and no site-specific or company-specific details will be published.

**Q18: Have you received (or are you aware of) any complaints raised in relation to shadow flicker effect at any operational wind energy developments within your planning area?**

 Yes

 No

**Q19: If 'Yes', please provide: details of the project(s); details of the complaint(s); the circumstances triggering the complaint; and details of how the complaint was resolved (if applicable).**

<b>Please comment</b>	
-----------------------	--

**Q20: What mitigation strategies for shadow flicker effects have been implemented on operational wind energy developments within your planning area?**

Please tick

- Careful site design to minimise / eliminate impact
- Turbine shut-down strategy
- Installation of blinds
- Landscaping / vegetation screening
- Other - *please specify in 'Other'*

<b>Other</b>	
--------------	--

**Q21: How successful have these mitigation strategies been in practice? Please provide as much detail as possible in the text box below.**

<b>Please comment</b>	
-----------------------	--



## THANK YOU

Thank you for completing this form. Your assistance is greatly appreciated.

If you have any additional comments, please include them in the text box below:

<p>Please comment</p>	
-----------------------	--

**Q22: Would you be happy for a representative to contact you to discuss elements of this questionnaire further?**

Yes

No

**Q23: What is your preferred method of contact?**

Telephone

Email

Post

Please continue to next page...

## SUBMIT FORM

**Option 1 - Please submit form by pressing the following button:**

**SUBMIT**

*(A blank Outlook message will open automatically)*

**Option 2 - If 'Submit' button above does not work, please click 'Save As', attach the saved PDF document to an email, and send to [DECC@pbworld.com](mailto:DECC@pbworld.com)**

**Option 3 - If 'Save As' method fails, please click 'Print to PDF', attach the saved PDF document to an email, and send to [DECC@pbworld.com](mailto:DECC@pbworld.com)**

**Option 4 -If the above options fail, please email us at [DECC@pbworld.com](mailto:DECC@pbworld.com) , explain the problem and we will resolve the issue as soon as possible.**

End of form.