



*Proposed site in centre, Schiehallion in right distance*

## **Objection**

by the local opposition group 'Keep Rannoch Wild' to the application by Eventus BV to construct an array of 24 wind turbines, 12.8km of hill tracks, hardstandings, compounds, masts, jetties and buildings on an area of wild land at Talladh a Bheithe Estate between Loch Ericht and Loch Rannoch



*Proposed site in right distance, Ben Alder group on left edge*

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## 1. INTRODUCTION AND CONTEXT

### 1.1 'Keep Rannoch Wild'

'Keep Rannoch Wild' (KRW) is a coalition of residents from the settlements around Loch Rannoch, former residents and others who know and love the area, which came together to resist the proposal by Eventus BV to construct an array of wind turbines and associated infrastructure on what is currently wild and beautiful land.

It was created and exists solely for that purpose and has no party political or other affiliation whatever. Though independent, it discusses matters of shared concern with a range of like-minded bodies and individuals and co-operates with them wherever appropriate. The group was formally constituted on 4 June 2014, less than three weeks before the submission of an application to Ministers by Eventus BV under Section 36 of the Electricity Act 1989, and had over fifty Rannoch residents as declared supporters at that time. In less than two months since inception the number of declared supporters has risen to over four hundred, both locally and further afield, and very many more have registered their agreement with its objectives by social media. A measure of just one facet of this is the total of 927 individuals who had chosen to share the group's website with at least one other on Facebook up to 28 July 2014. Several members of the group are also members of the Community Liaison Group (CLG) established by Eventus BV.

This submission is made on behalf of the group by Douglas Wynn, 7 Kenaclacher Steading, Bridge of Gaur, Rannoch PH17 2QD, tel: 01882 633311, mob: 07050060125 and e-mail [douglas.wynn@me.com](mailto:douglas.wynn@me.com) to whom any queries should be addressed.

### 1.2 The Consultation Process

Eventus BV is a Dutch firm with experience of wind farm schemes in other countries but not in the UK. Its agents for this scheme have stated that it intends to sell any consents which it might gain and will not itself construct or manage the wind farm, should that eventually be consented and prove commercially and logistically viable. Eventus BV has managed the consultation process for this scheme through UK-based agents, with a member of staff of MHP Communications (a trading division of Engine Partners UK LLP) chairing and minuting the meetings of the applicant's CLG.

KRW fully accepts that the consultation process has been professionally managed and informative, even though it disagrees entirely with its objectives in facilitating this scheme. The reservations which we have on the consultation process itself are that:

- The selection of CLG community participants appeared random and was never itself discussed or subject to consultation: some initial nominees never wished to participate and did not, and others wished to, but were not invited;
- The community members of the CLG had to accept that they were not always told *all* of the relevant facts, most pointedly when the applicants' agents omitted to mention the earlier (2013) Eventus submission to the Scottish Natural Heritage (SNH) national consultation on 'wild land' mapping, which sought to have the proposed wind farm site excluded from SNH area 14 (as a 'case study') in advance of any specific planning consideration for the proposal;

- The CLG meetings were chaired and recorded by a consultant on behalf of Eventus BV. The Eventus record of these consultations should be understood in that context; and, most recently
- The applicant's agent has advised on 23 July 2014 that the applicant will be *'considering how best to revise and restructure the composition of the (Community Liaison - CLG) group to ensure that such discussions can be progressed in a constructive manner, and directed towards those with a direct interest in progressing the matter.'* Discussions so far have always been civil but a fair summary is that there are evident frustrations on all sides.

Overall, we ask our elected representatives to listen to the direct views of the Rannoch community on this proposal, and not those mediated and reported on our behalf through the applicant's agents. We are able to speak for ourselves, whatever our precise views – and we understand that this objection will not please all interests.

### **1.3 'Community Benefit'**

The prospect of 'Community Benefit' payments has caused considerable discussion in Rannoch, as it is intended to do in all communities targeted for windfarm projects. Eventus has undertaken to provide the level of payments recommended in the November 2013 'Scottish Government Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments' of £5,000 per megawatt of installed capacity per annum (approximately 2% of the likely revenue stream). If a 75Mw scheme is eventually consented and constructed, this would provide a fund of £375,000 per annum. The precise communities which might benefit, the administrative arrangements and the types of schemes which might be funded remain uncertain at this time. Eventus's agents have suggested that additional benefits or partnership schemes might be agreed if the project is implemented. Understandably, they have tried to engage the various community bodies in early discussions on this.

KRW does not wish the Talladh a Bheithe wind farm scheme to be implemented at any price and will oppose it with determination. Its members believe, nevertheless, and solely as a contingency, that they should contribute to community discussions on overall grant award mechanisms which might at some stage extend to such payments.

KRW understands that Inquiry Reporters have allowed consideration of 'Community Benefit' payments by commercial firms in previous Public Local Inquiries (PLIs) under Section 36 (of the Electricity Act 1989) procedures, despite the accepted principle that UK planning decisions should not be seen to be – nor actually to be - 'bought' in any way. KRW notes that the current application includes calculations of 'Community Benefit' in its overall 'Socio-Economic Assessment' (Chapter 15 of the Environmental Statement (ES)).

KRW, for its part, deplores this growing encroachment of private financial considerations into public decision-making.

## 1.4 Structure of this Submission

This submission is structured as follows:

1. Introduction (this section);
2. Comments on the Overall Scheme;
3. Current Planning Policies;
4. Landscape Impacts;
5. Habitat and Environmental Impacts;
6. Socio-Economic Impacts (longer because more contentious);
7. Access, Traffic and Transport Impacts;
8. Summary of Objections.

Appendix 1: 'A Site Too Far' – our photographic appreciation of this area;

Appendix 2: the Eventus Visualisations.

In the interest of brevity we will not repeat objections which we know are being submitted by other, better-qualified, objectors, but will simply reference those.

## 2. COMMENTS ON THE OVERALL SCHEME

### 2.1 Disputed Statements and Assumptions by the Applicant

The proposed scheme is described at length and in various places in the application. We would draw attention to the following statements, which we consider problematic:

- The applicant states (at para 1.1.2 of the Introduction to the ES, and elsewhere in the documentation) that *'The proposed development is sited in an area of land which is dominated by a natural bowl ...'* We consider this reference to 'a bowl' to be misleading as in fact (see pages 7 and 14 of the Appendix to this submission and the applicant's own Visualisations 10 and 22) the landform is that of a shallow valley with low hills on three sides but completely open to the west and south-west. There is no intervening higher ground to screen views of the majority of the proposed site from this quadrant, even from the lowest available viewpoints at the level of Loch Ericht. This quadrant contains some important low-level visual receptors including the core footpath from Rannoch to Strath Ericht and Ben Alder and, more distantly, a 15km stretch of the West Highland Rail-line from which is only temporarily screened by a forestry plantation, a 5km stretch of the A82, the main tourist route to Glencoe and the north-west, and a 4km stretch of the West Highland Way. None of these important tourist routes is, as yet, within sight of any windfarm.
- The applicant refers (at 2.2.1) to *'significant hydro-electric infrastructure across large areas of the estate'* and states specifically (at para 1.1.4, repeated *inter alia* at 2.2.1) that *'The site is characterised by open grassland and intermittent coniferous plantations and on part of which exists hydro energy infrastructure comprising power buildings, overhead power lines, large diameter pipework and roads.'* We consider this description to be more than a little contrived to present an image of blighted land: in fact, the existing man-made structures referred to on the site are relatively unobtrusive and small-scale in context and are all to the west of the location proposed for this much more extensive and intrusive new construction. This scheme, if consented, would be built on peat land so far used only for grazing and some forestry - and currently without any man-made structures.
- The applicant states (at 2.5.1) that the listed design principles *'were followed ... to ensure that the final design ... was the most suitable for the site.'* These include *'relat(ing) well to the landform on which it stands'*, *'Minimis(ing) the potential visual effects upon National Scenic Area and other designated land'*, *'environmental constraints and associated buffers are to be respected'* and *'Consideration of landscape and Visual Effects.'* These principles are stated only in the most general outline and their application to this specific project is not developed. In our view these 'design principles' are excessively vague and seem to have had no practical consequences in shaping this proposal.
- The applicant states (at 2.7.39 and 40 and repeats at 2.8.12) that *'No turbines have been sited within the Loch Rannoch and Glen Lyon National Scenic Area and visibility from this area is for the most part restricted only to its northern extent.'* We consider this to hugely understate the visual impacts of the scheme on the overall Loch Rannoch and Glen Lyon NSA in that only one viewpoint exactly on its northern border and to the north of Loch Rannoch was selected by the applicant (Viewpoint 21, Meall Gorm) and this shows, in our judgement, a major visual

intrusion. Selected viewpoints within the NSA and to the *south* of Loch Rannoch (EV4 Leagag, EV6 Meall a Mhuic, EV7 Meall Garbh and EV8 Schiehallion) though more distant, all show significant visibility from land above loch level within the NSA. The applicant's own ZTV mapping (Figures 7.12 and 13) shows that turbine visibility is widespread from core paths and land within this NSA to the south of Loch Rannoch. A much fairer summary is that this scheme would have very significant and widespread visual impacts on the Loch Rannoch and Glen Lyon National Scenic Area.

(There would also be a direct, physical intrusion into the Loch Rannoch and Glen Lyon National Scenic Area as a consequence of this scheme in that the first two kilometres of the estate road lie within it and would be reconfigured and substantially widened. The applicant's specification of this is inconsistent but could mean a doubling of road width plus additional widening at corners for 'oversail'.)

- The applicant states (also at 2.7.39 and 40 and repeats at 2.8.12) that '*In the more immediate vicinity of the site, Layout Option Two has now removed potential views of the turbines from much of the area around Loch Rannoch and sought to ensure the turbines fit well with the landscape in remaining views.*' Again, we consider this contrived and complacent: certainly the site would only be partly visible from most of the south shore and east end of Loch Rannoch but it would be hugely intrusive in the even '*more immediate vicinity*' to the open west of the site. In our view the visual intrusion on the core path from Rannoch to Ben Alder (see the applicant's EV10 and ZTV at Figure 7.12 and our photographs at pages 7, 8, 9 and 11 of Appendix 1) would be huge: the turbines would be close and would dominate this popular footpath, removing its current strong sense of a journey into wildness and landscape beauty. Also to the immediate west of the proposed site we note that the developer did not choose any viewpoint from the higher ground of the hill ridge between Beinn Pharlagain and Sgor Choinnich which all directly overlook the open west aspect of the proposed site. The applicant was required by SNH to add just one higher-level viewpoint for visualisation in the second public exhibition: EV22, Sgor Gaibhre. Though not the closest or most revealing hill on this ridge (see our photographs of the ridge and from the popular Beinn Pharlagain at pages 6, 14 and 15 of Appendix 1) the visual impact of the proposed scheme from this wild and unspoilt ridge would also be huge, *inter alia* detracting greatly from the beauty of views over Rannoch towards Schiehallion.
- The applicant misunderstands the drivers of tourism in the commercial activities of the estates. The estates are indeed significant providers of accommodation, mostly in the form of self-catering cottages, as noted at 15.3.48. The significance of '*estate activities particularly sporting activities*' is, however, much overstated. In fact, the supposed anchor of classic sporting activities is based on little more than a stereotype: the accommodation rental activities of the estates are subject to the same drivers and vulnerabilities as the other local accommodation providers. The conclusion drawn in 15.3.52 that '*the sensitivity of individual estates ... is low*' is, therefore, unjustified.
- The applicant makes assumptions on construction and operational cost metrics which we consider unsustainably high and so exaggerates the claimed economic benefits to the local economy (15.4.4-7) whilst at the same time not considering any dis-benefits – for example, costs of disruption during the construction phase at individual or community level, or permanent effect on local property prices.

## 2.2 Weaknesses in the Documentation

We have appreciated the courtesy of the applicant in providing copies of the application on CD. The arrangement of the various documents presented by the applicant is not, however, the most user-friendly to navigate, despite the provision of a table of contents. Neither is the presentation always of the best level of substantive detail or grammar (The crucial Chapter 3 describing ‘The Proposed Development’ seems to us particularly weak and includes *inter alia* a truncated and meaningless sentence and a table which omitted an essential column of turbine co-ordinates). More substantively, we consider this application unacceptable in respect of:

- the consistent postponement of the provision of reasonable detail on material aspects of the scheme until after a possible consent (in Chapters 3 and 4 and appendix 4.1, including turbine specification (3.3.7), location of transformers (3.3.9), routing of construction vehicles to the site from the A9 (3.3.14), access, barging and jetties on Loch Ericht (3.3.16) and locations of masts and borrow pits.) This may be convenient for the applicant but necessarily weakens public scrutiny. We are in complete agreement with our elected Planning Authority in its earlier request (at Scoping Opinion stage) for a full Construction Method Statement and comprehensive Transport Assessment *before* any decision.
- the unreasonably slight treatment of the access issues at both ends of Loch Ericht, for which again consideration of really substantive logistical and contractual matters is postponed until after a possible consent (3.3.16). This is particularly important as Loch Ericht is intended to be a major access route - and perhaps *the only* access route - for components. The best treatment of these issues in the application is in paragraphs 4.19 to 32 of the Transport Statement but even this is remarkably weak. Paragraph 4.26 acknowledges that ‘*the water levels (on Ericht) vary considerably ... (leading the applicant to conclude that) ‘the exact location of the crane pad and set-down area on the lochside will be determined when a final construction programme is in place.’* (The ‘exact’ here is totally disingenuous – this application offers only an ‘*indicative*’ plan of the southern set-down area at Figure 1.2.) It has already been noted that the jetties and set-down areas are omitted, like much else, from the applicant’s visualisations (see *inter alia* EV10) but in reality the shallowness of much of Loch Ericht combined with the known fluctuations of its water level might well dictate very large jetty constructions to achieve access. It is submitted that this in itself demonstrates the unreasonableness of hoping for consent in advance of any substantive design and location plan for this crucial element of the scheme.
- the omission of the widened estate road, 12.8km of access tracks (requiring 20m corridors – 4.7.8) hardstandings, compounds, masts and buildings, the proposed jetties and loch-side transshipment areas from any of the visualisations provided by the applicant. Given the remoteness of this site and multi-modal transport which would be entailed, the visual impact of infrastructure would itself be considerable;
- the inconsistency of the proposed widening of the 3m-wide estate road from the B864 access, given at 4.7.3 as ‘*widened and upgraded to a suitable width, typically 5m wide*’ with additional widening at bends for ‘oversail’ but at para 3.5 of Appendix 4.1 as ‘*It is proposed to widen the road to 6m to accommodate daily site traffic and abnormal loads*’, plus again additional widening at bends for ‘oversail’;
- the applicant’s request for a ‘micro-siting allowance of 50m in any direction ... in respect of each turbine and all infrastructures ...’. This seems excessive to us;

- the asserted precedent of the 1933 Grampian Electricity Supply Company's Tummel Scheme (referred to slightly at 14.9.3 and again at 4.3 in the applicant's Transport Statement) which is taken to establish '*the principle of access (from) the B846 for construction-type vehicles*'. The precise relevance of this is nowhere explained and anyway '*construction-type vehicles*' have changed somewhat in over eighty years;
- the failure of the applicant to consider the possible effects on local property prices;
- the failure of the applicant to register the importance of the large Forestry Commission Campsite at Kilvrecht for the number of tourists in the Rannoch area and consequently to appreciate the particular salience of landscape and 'the outdoors' as tourism draws for many visitors. (Kilvrecht is nowhere mentioned in this application, not even in the listing of accommodation providers at 15.3.44 to 52.) Though seasonal (April 1 to October 19) this long-established campsite on the south shore of Loch Rannoch has a capacity which exceeds that of all other local accommodation providers and is very well used, *inter alia* generating much business for the shop and local food providers;
- of greatest overall concern to us, the consistent reference throughout the application to a planning and policy context which was superseded on the day the application was lodged. We consider that the applicant, knowing that the new Scottish Planning Policy and National Planning Framework 3, and Wild Land Mapping by SNH, were to be published that day (23 June 2014) by Ministers, should have delayed the application in order to incorporate this revised guidance into the document. The applicant's failure to set the proposal in the context of current planning guidance should be enough to have this application rejected as incompetent.

### 2.3 Implementation Difficulties

Though no part of strictly planning considerations we are aware that the sparse local transport infrastructure in Rannoch and Ericht would much complicate the logistics in any implementation of this scheme. There is throughout this application an absence of evidence that the applicant has achieved the necessary agreements to put the essential infrastructure in place, which makes the lack of firm forward planning evident in this application all the more significant.

This would be the first wind turbine scheme in the UK to be implemented in part by rail transport, though the particular configuration of the West Highland Line would constrain the size and weight of the main components. The sidings at Rannoch Station were not the applicant's preferred solution and have difficulties of scale and crane placements. The turbine towers, if moved by rail to Rannoch Station as proposed, could not be of standard design and the consequential larger number of individual components would require more goods vehicle movements and construction activity on site than is usual. The turbine blades could not be brought by rail but instead would require road and water transport and the cost and difficulty of craning over the main rail line to Inverness at Dalwhinnie (assuming, of course, that permissions to do that and also to access the shore-line at upper Loch Ericht could be achieved, as noted above.)

Overall, there is no evidence that any of the outlined transport and construction options in this application would eventually prove logistically or commercially viable, and there is a danger that the applicant's evident failure to define solutions adequately at this stage would, if consent were to be granted, simply lead to subsequent and unacceptable design adjustments.

### 3. CURRENT PLANNING POLICIES

The current national planning policies against which this scheme will be assessed<sup>1</sup> are the Scottish Government's Scottish Planning Policy (SPP), National Planning Framework 3 (NPF3) and the Scottish Natural Heritage (SNH) Wild Land Areas Map, all published on 23 June 2014. The introduction to this tranche of guidance documents by the planning Minister stated *inter alia* that “*NPF3 and SPP ... place a ban on windfarm development in the 19 per cent of Scotland identified as National Parks and National Scenic Areas. Significant protection is provided to sensitive areas of land identified within Scottish Natural Heritage's Wild Land Areas Map 2014...*”

#### 3.1 Scottish Planning Policy

We understand that statements of planning policy are necessarily general and citations by interested parties should not be unreasonably selective. Scottish Government has an established policy to encourage the development of renewables capacity in electricity generation, including on-shore wind, expressed *inter alia* at paragraphs 155 to 157 on Delivery Development Planning, 161 to 166 on Onshore Wind and 178 to 187 on Development Planning. This general encouragement of renewables generation has, however, to be balanced against bio-diversity, environmental and landscape considerations as expressed in paragraphs 196 to 215 of the SPP. This group seeks only to establish that, balancing the policy thrust towards greater generation from renewables against these later considerations should result in *a refusal of consent for a turbine array on this particular site*, as the consequential landscape and environmental impacts would be disproportionately large compared to potential benefits.

Specifically on wind farms, SPP identifies (Table 1: Spatial Frameworks, at page 39) two levels of areas protected from windfarm developments:

- Group 1: Areas where wind farms will not be acceptable - National Parks and National Scenic Areas; and
- Group 2: Areas of significant protection – including areas of wild land as shown on the 2014 SNH map and areas of carbon rich soils, deep peat and priority peatland habitat. “*Recognising the need for significant protection, in these areas wind farms may be appropriate in some circumstances. 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.*”

SPP (para 200, p 47) advises planning authorities that: “*Wild land character is displayed in some of Scotland's remoter upland, mountain and coastal areas, which are very sensitive to any form of intrusive human activity and have little or no capacity to accept new development. Plans should identify and safeguard the character of areas of wild land as identified on the 2014 SNH map of wild land areas.*”

The proposed turbine array at Talladh a Bheithe would immediately border an SSSI to its north-west and the Loch Rannoch and Glen Lyon National Scenic Area to its south and entail the doubling of the width of an estate road which runs for some two

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<sup>1</sup> Curiously, the application was lodged on the very day – 23 June 2014 - on which Ministers published their new planning framework but was drafted in terms of the superseded guidance. In our view this is inconsiderate at best and the application should have been delayed until it could incorporate the current guidance.

kilometres through the NSA before continuing to the proposed site which is on the SNH's mapped Area of Wild Land 14. The noted provisions of SPP are, therefore, all relevant in any judgement on this proposed scheme.

### **3.2 National Planning Framework 3**

NPF3 gives spatial expression to the same policy balance between low carbon energy generation on the one hand and respect for natural and cultural assets on the other as '*sustainable economic, environmental and social resources for the nation*'.

Guidance to ensure that '*Rural communities will benefit from well-planned renewable energy development*' states at 3.22 of NPF3 that '*We do not wish to see wind farm development in our National Parks and National Scenic Areas. Scottish Planning Policy will set out the required approach to spatial frameworks which will guide new wind energy development to appropriate locations.*' Relevant policies to enhance and make responsible use of our natural and cultural assets are found *inter alia* at 4.4, 4.5 and 4.22.

### **3.3 The SNH Wild Land Mapping 2014**

This mapping was released in finalised form with SPP and NPF3 on 23 June 2014 and confirms that the proposed site is included within the Rannoch – Nevis – Mamores – Alder Area 14. The provisions of SPP in respect of Wild Land, as stated in its Table 1 – '*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*' – therefore applies directly to this specific proposal.

KRW trusts that this will now end the applicant's (in our view, tendentious) efforts to have the site in which it has a commercial interest excluded from such mapping.

### **3.4 TAYplan Strategic Development Plan 2012-2032**

TAYplan notes (at page 18) that '*This Plan does not provide the locations for energy infrastructure: this role is for Local Development Plans.*' Nevertheless, the general policy statement on page 13 on '*Understanding and respecting the regional distinctiveness and scenic value of the TAYplan area*' in safeguarding *inter alia* habitats and landscapes aims to '*allow development where it does not adversely impact upon or preferably enhances these assets.*'

### **3.5 Perth and Kinross Council Local Development Plan**

Policies which are directly relevant to this particular proposal include:

NE1B on '*Developments which would affect a ... National Scenic Area, where the Planning Authority has to be satisfied that the proposed development will not adversely affect the integrity of the area or the qualities for which it was designated or such adverse effects are clearly outweighed by social, environmental or economic benefits of national importance.*'

NE3 on Bio-diversity: '*The Council will seek to protect and enhance all wildlife and wildlife habitats, whether formally designated/protected or not, taking into account the ecosystems and natural processes in the area. ... Proposals that have a detrimental impact on the ability to achieve the guidelines and actions identified (in Tayside planning and national and European legislation) will not be supported unless clear evidence can be provided that the ecological impacts can be satisfactorily mitigated.*'

ER1 on Renewable and Low Carbon Energy Generation: *‘Proposals for the ... development of renewable and low carbon sources of energy will be supported subject to the following ... (a) The ... effects on biodiversity, landscape character, visual integrity, the historic environment, cultural heritage, tranquil qualities, wildness qualities ... of the surrounding area (b) The contribution of the proposed development towards meeting carbon reduction targets (d) The transport implications ... (e) The hill tracks and borrow pits associated with any development (f) The effects on carbon rich soils (g) Any positive or negative effects they may have on the local ... economy including tourism and recreation interests ... (h) In the case of large-scale onshore wind energy developments, their fit with the spatial framework for wind energy developments.’*

ER2 on Electricity Transmission Infrastructure.

ER6 on Managing Future Landscape Change to Conserve and Enhance the Diversity and Quality of the Area’s Landscapes. *‘Development and land use change should be compatible with the distinctive characteristics and features of Perth and Kinross’s landscapes. Accordingly, development proposals will be supported where they do not conflict with the aim of maintaining and enhancing the landscape qualities of Perth and Kinross. They will need to demonstrate that ...*

- a) they do not erode local distinctiveness, diversity and quality of Perth and Kinross’s landscape character areas, the historic and cultural dimension of the area’s landscapes, visual and scenic qualities of the landscape, or the quality of landscape experience;*
- b) they safeguard views, viewpoints and landmarks from development that would detract from their visual integrity, identity or scenic quality;*
- c) they safeguard the tranquil qualities of the area’s landscapes;*
- d) they safeguard the relative wildness of the area’s landscapes;*
- e) they provide high quality standards in landscape design, including landscape enhancement and mitigation schemes when there is an associated impact on a landscape’s qualities;*
- f) they incorporate measures for protecting and enhancing the ecological, geological, geomorphological, archaeological, historic, cultural and visual amenity elements of the landscape ...’*

We note and fully agree with the Planning Authority’s comments on Landscape and Views in its response to the earlier Scoping Opinion, and especially with its advice on Landscape Character in this area and the reasons for treating it as of *‘high sensitivity’*.

In this proposal the *‘high sensitivity visual receptors’* of *‘recreational footpaths, users of public rights of way (including Core Footpaths) and road/rail users on tourist routes’* would include those using the core footpath from Rannoch to the Alder group, the core footpaths from Rannoch to Glen Lyon within the NSA to the south of Loch Rannoch, the West Highland Rail Line, the popular tourist road to Glencoe and beyond (the A82 across the western part of Rannoch Moor) and the West Highland Way long-distance footpath. We note that, on the applicant’s own ZTV mapping, none of these important and *‘high sensitivity’* receptors is in sight of any *existing* wind turbine array but all would be directly impacted if the Talladh a Bheithe scheme was to be implemented.

### 3.6 Specific Policies Relevant to this Application

SPP	<p>The proposal would adversely affect bio-diversity, environmental and landscape qualities of this special area - as expressed in paragraphs 196 to 215 - to an extent which far exceeds the benefit from consenting this particular site. In particular, it would entail remaking of the estate road through the NSA to double its width and the construction of 12.8km of new tracks with a corridor width of 20m (elided in the site plan at Figure 4.1), hardstandings, compounds, masts and buildings – and 24 wind turbines - on an area of wild land. The jetties and set-down areas are not adequately specified in the application but would add to landscape intrusion. Adequate information on this infrastructure is not given but would be essential to assess impacts on fish and other wildlife. The site landform of a shallow valley open to the west renders it inconceivable that <i>‘any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation’</i>.</p> <p>It is submitted that the provisions of paragraph 200 of SPP should apply to this particular site if they are to apply to <i>any</i> area of wild land in Scotland: <i>‘Wild land character is displayed in some of Scotland’s remoter upland, mountain and coastal areas, which are very sensitive to any form of intrusive human activity and have little or no capacity to accept new development.’</i></p>
NPF3	<p>We do not dispute the general objectives of ensuring a balance of energy benefits against environmental and landscape costs, nor that <i>‘rural communities will benefit from well-planned renewable energy development’</i> – but we consider the costs and impacts on this cherished area to well exceed the asserted benefits - and we do not consider this scheme to be at all <i>‘well-planned’</i>.</p>
SNH Wild Land Map 2014	<p>The site of the main constructions forms part of Area 14 of Scottish Natural Heritage’s Wild Land Areas Map 2014 and should receive the <i>‘significant protection’</i> promised by Ministers to sensitive areas of land identified within that mapping. The landform – a shallow valley sloping to the west and dropping to the level of Loch Ericht’s shore – renders it impossible to achieve any <i>‘substantial mitigation’</i> of the visual impacts from the core path or hill ridge immediately to the west, or from the West Highland Rail-line and other key receptors. We note that the applicant has volunteered only one visualisation (EV10) relevant to this.</p>
TAY plan	<p>TAYplan states the general principles of <i>‘understanding and respecting the regional distinctiveness and scenic value of the TAYplan area’</i> and safeguarding habitats and landscapes by aiming to <i>‘allow development where it does not adversely impact upon or preferably enhances these assets.’</i></p>
P&KC Local Devt Plan	<p>Policies NE1B, NE3, ER1, ER2 and ER6 together specify the considerations on which the balance of cost and advantage should be judged in order to inform the Council’s view on this application. It is this group’s view that these policies are well and sensitively stated and should, in aggregate, lead the Planning Authority to object to any granting of consent.</p>

Overall, it is submitted that the environmental and landscape value of this particularly remote, wild and beautiful site is too great to allow the intrusion of the 24 turbines, many structures and 12.8km of bulldozed tracks proposed by the applicant. In our view it would be a wholly insensitive scheme in such a magnificent natural setting and, if consented, make a travesty of the promised policy balance of landscape protection against energy objectives. Images are often more telling than words: Ministers may wish also to consider the images in the appended document ‘A Site Too Far’, produced in the brief period allowed for public representations, to inform their own judgements. Some of the applicant’s own visualisations – they are selective – also show clearly the great qualities and value of this land.

The image below is just one example: in this case from Beinn Pharlagain, centred on the proposed site (the shallow valley facing the camera on the far side of Loch Ericht). Schiehallion is in the right distance. A larger image is at page 15 of Appendix 1.



This significant viewpoint was not chosen for any visualisation by the applicant.

## 4. LANDSCAPE IMPACTS

### 4.1 A Very Special Landscape

Over many years - and before commercial interest coloured individuals' perceptions - there have been very many appreciations written of the landscape qualities of Rannoch and the heartlands of the central highlands. A few are quoted here to attest to widely-shared and long-held perceptions:

- *“Ben Alder to Rannoch ... this area has a greater sense of remoteness than any other in the central highlands. There are no public roads within the area and the only two roads near its margins ... are at a great distance from the hills. Within lies Ben Alder, fascinating in its variety of corrie and ridge and with a definite air of inaccessibility adding to its attraction. ... Views both far and near (from the Carn Dearg - Sgor Gaibhre – Beinn Pharlagain ridge) ... of the great stretch of Rannoch Moor and of Strath Ossian’s U-shaped trench ... are particularly satisfying. ... (approaching from the south) a view of great splendour steadily unfolds with the length of Loch Ericht stretching into the distance. Above it, scarped slopes to the east and the unrelenting angle of those to the west beneath Sron Coire na h-Iolaire are redolent of the glacier that oversteepened these walls.”* (SMC District Guide to the Central Highlands, ISBN 0-907521-44-4, pages 148-9 and 153.)



(Strath Ericht looking north from a low hill – Dun Daimh – by the core path from Rannoch to Ben Alder. The proposed site is right of centre, behind and to the right of the forestry on the far shore.)

- *“The dramatic landform is the dominant characteristic of the area. The topography is varied, ranging from massive, looming hills to more delicate, dissected peaks. It also forms long, deep glens that contain the striking large-scale lochs that are another feature of the landscape. ... The area is located in the centre of the Highlands between Strathspey and the west. ... the high ground is a barrier to communication and the distances from other settlements and routes from the south of the area further inhibits traffic. The bulk of the study area, south of the A86, is served only by estate tracks and footpaths. This heightens the sense of remoteness and semi-wilderness which is one of the main features of being in the area.”* (SNH’s Landscape Character Assessment of Ben Alder and nearby Estates no. 120, page 11)
- Ben Alder *‘lies in the very heart of the highlands, a great hunk of a mountain sending streams forth west to the Atlantic and north-east to the North Sea. Its name, however, is something of a mystery, perhaps because so central and high a mountain mass would have a very old, possibly a pre- or early Gaelic name. It appeared on Blaeu’s 17th Century map as Bin Aildir, but Pont’s map on which Blaeu is based showed it as Bin Ailloir ... W.J.Watson (interpreted it as) “hill of rock and water” ... (an) 18th century description of Prince Charlie’s hideout at Cluny’s Cage (states) “Twas situate on the face of a very rough high rockie*

*mountain which is still a part of Ben Alder, full of great stones and crevices.”*  
(Peter Drummond ‘Scottish Hill Names’ ISBN 978-0-907521-95-2, pages 135-6).

#### 4.2 ‘A Site Too Far’

The local group did not consider that the photographic presentation of this scheme by the applicant, especially in the first exhibition and earlier stages of consultation, gave a fair impression of the landscape qualities and context of the proposed site. This was true both of the framing of some of the photographs and the selection of viewpoints.

Though constrained by the short timescale allowed to members of the public (and typical Scottish weather), KRW undertook a photographic presentation of its own, shown here as Appendix 1: ‘A Site Too Far’. This aims to demonstrate visually that:

- the proposed site is truly wild land and has its own austere beauty, which currently compliments its surroundings;
- the existing man-made structures on it are limited in visual impact and restricted to a small area to the immediate west of the site, in the upper valley of the River Ericht;
- it forms part of a mosaic of landforms, with wild and remote hills (and raptor nesting habitats) to the north and south; and
- appreciation of its true context and contribution to the landscape requires other viewpoints than those chosen by the applicant: in particular from the small hills by the core path from Rannoch to Ben Alder at the southern end of Loch Ericht (pages 4, 5 and 7), from the core path itself (pages 8 and 9) and from the central and southern parts of the ridge which overlooks its entirely open western aspect.

We have summarised our landscape observations and objections in the context of that visual statement. Please note that ‘A Site Too Far’ is not intended to provide any impression of how a completed scheme might appear: it is an appreciation of landscape.

#### 4.3 Applicant’s Choice of Viewpoints

The applicant’s mapping of viewpoints used for visualisations is incorporated in Appendix 2 to this representation, together with our index table and brief comments on each chosen viewpoint.

We categorise the viewpoints chosen by the applicant for visualisations as follows:

- Low-level views in which landforms largely or entirely mask the site: 1, 2, 3, 16, 17;
- Low-level views in which distance of over 18km diminishes the perceived impact: 12, 13, 19;
- Low-level views which are unobscured and within 9km: 10;
- High-level views in which distance or landform masking diminishes the perceived impact: 11; 15 (a pointless view from a distant and unimportant hill); 23;
- High-level views which are unobscured but distant: 5; 6; 7; 8; 14; 18; 20; 24;
- High-level views which are unobscured and within 9km: 4; 9; 21; 22; 25.

As stated above, we believe that the choice of viewpoints by the developer fails to provide the basis for a balanced assessment of the proposal, largely because only two of

the twenty five are towards the open westerly aspect of the site. Of these two, one (EV10) is from a low viewpoint by Loch Ericht and the other (EV22 - from Sgor Gaibhre) is striking but was required by SNH rather than volunteered by the applicant. Alternative viewpoints could have been chosen, even where these would have involved relatively minor re-positioning. It is not obvious, for example, why EV5 was chosen at the southern and most distant extremity of the Meall Buidhe ridge rather than at the summit or the closer northern top of Garbh Mheall, nor why the two chosen viewpoints from Ben Alder have the proposed site respectively totally or partly masked by landforms when alternative viewpoints (for example, Sgairneach Mhor on the southern approach route) would have shown the whole site. The objective should have been a balanced presentation of reality, not a selection to support a particular case.

It is also, in our view, very important to note that the extensive and potentially very intrusive infrastructure which this scheme would require is entirely absent from the applicant's visualisations.

The transshipment jetties envisioned are given very scant treatment in the application and are not even shown on the site plan at Figure 1.2. The 12.8km of hill tracks which are proposed (each with a 20m-wide service and drainage corridor) are rendered on that site plan as thin pencil lines but would in reality be wide, prominent and extensive.

The overall effect, we believe, is to substantially understate the probable visual impact of this scheme on a landscape which currently has great wildness and visual qualities.

#### **4.4 Additional Viewpoints for a Balanced Assessment**

We appreciate that any presentation of viewpoints can be slanted to support particular desired outcomes. Overall, we accept that the proposed site would largely achieve the applicant's objective of shielding the scheme from most residential properties immediately around Loch Rannoch, but the price of that would, in our view, be unacceptable damage to the very special wild landscape qualities of Strath Ericht and views from higher ground in all directions.

We consider the current selection of viewpoints to be unjustifiably selective towards masking the site, especially in respect of near and distant views from the open westerly quadrant. To allow a balanced assessment we consider that, at minimum, visualisations are required also from:

- The low hills to the south of Loch Ericht – we would suggest the summit of Dun Daimh or Meall an Uillt Riabhaich;
- The core track between Rannoch and Alder south of EV10 – we would suggest from the bridge at NN485641;
- Beinn Pharlagain, popular with locals and visitors and directly overlooking the open aspect of the site – we would suggest from the top of Leachd Dhubh at NN455642;
- the south approach to Ben Alder – we would suggest from Sgairneach Mhor at NN494699; and
- the West Highland Rail line (a 'high sensitivity receptor') from points both north and south of Rannoch Station – we would suggest as it passes the Sword Loch (Lochan a Chlaidheimh) to the north and (to allow base photography despite the current forestry masking) the footbridge at NN412504 to the south.

## 5. HABITAT AND ENVIRONMENTAL IMPACTS

'Keep Rannoch Wild' has taken advice from Rannoch people who have had a long-standing and close relationship with this land, including George Macdonald, the Head Keeper at an immediately adjacent estate, Camusericht, for over twenty years until recently. That informed advice has confirmed our view that the site should be assessed as priority peatland habitat *inter alia* as a known hunting ground for eagles which nest close nearby and for other protected raptors including harriers, peregrine, merlins, kestrels and owls. In particular, it is valuable for raptors when harsh weather affects the surrounding hills and is rich in prey species, especially voles. Ospreys nest in the forestry plantations of Camusericht and surrounding land and overfly the proposed site to hunt in local lochs. This valley, adjacent to higher ground, provides the mosaic of land types needed and used by these and other avian species including red and black-throated divers, moorland waders and grouse. We are concerned on the purely habitat issues that construction activity on this site would have a displacement effect on birds, varying by species, which might be temporary or permanent, and that valued and protected species would be vulnerable to blade collisions.

The regular movements of barges on Loch Ericht would itself risk displacement of eagles from a known, active nest which is close to and overlooking the loch.

The site is known to have otters in its burns and pine martens in adjacent forestry, both species which are sensitive to disturbance and may be displaced. Bats are believed to be present and are known to be vulnerable to windfarm impacts.

The proposed scheme would require substantial groundworks to double the width of the estate road, to create a jetty and set-down area of unspecified size and location, bulldoze 12.8km of new hill tracks with an effective works corridor of 20m in order to achieve access to the site, and to create hardstandings, a compound and borrow pits. These substantial groundworks would damage the peat cover and might well cause siltage of the watercourses, potentially affecting fish within the catchment.

We understand that separate expert representations are being made, expressing concerns on bird species, by:

- George Macdonald former Head Keeper, Camusericht, on bird movements, displacement and possible impacts; and
- Logan Steele, licensed by SNH as an eagle observer, on the methodology of the applicant's Chapter 9 and appendices of the ES, on ornithology, and on the substantive statements there.

Whilst we accept that 'Keep Rannoch Wild' cannot directly offer additional evidence to requisite standards of scientific rigour (and anyway does not wish to be party to any sensitive information which might endanger protected avian species) we are, nevertheless, concerned on these points and would ask that the representations by the individuals noted are fully addressed.

We expect that expert submissions on these issues will also be made *inter alia* by SNH and RSPB.

## 6. SOCIO-ECONOMIC IMPACTS

*This section is a précis by KRW based on an independent review of the applicant's 'Socio-Economic Assessment' of the proposal by Mike Nevin of Nevin Associates.*

The applicant's assessment of his own scheme concludes that it would generate significant net economic benefits for the area, and that any adverse impacts on the local economy would be negligible. The objective of this section is to review this assessment and draw on other relevant research regarding the impact of similar wind farm schemes, to arrive at an independent estimate of the full costs and benefits of the scheme.

### 6.1 Methodologies

There is no market price for environmental assets such as clean air or unspoiled countryside. However, this does not mean that they have no economic value, and economists have devised a number of methods for assessing this value and measuring the extent to which human intervention may affect it, positively or negatively. The principal valuation methods developed by economists are:

1. **The impact of human interventions on ecosystem productivity.** This method seeks to measure the impact of a scheme, such as a wind farm, on the capacity of the local environment to generate revenues, most obviously in the case of Talladh a Bheithe from tourism. As with the "polluter pays" principle, where a negative impact can be proved, the developer might pay compensation to those whose livelihoods are adversely affected, or take measures to mitigate any negative impact.

The most prominent contemporary example of the application of this method is the Macondo case. In this case, BP has paid many billions of dollars in compensation for the damage caused by an explosion on its Deepwater Horizon drilling rig in April 2010, which resulted in a massive offshore oil spill in the Gulf of Mexico.

The difficulty with applying this method to valuing the impact of the proposed wind farm is that it is only possible to measure its negative impact on tourism revenues *in retrospect*. Accordingly, although this method is in principle an accurate method for measuring an environmental impact, its application in practice is not appropriate in the Talladh a Bheithe case.

2. **The use of surrogate market prices.** There are no market prices for environmental assets but it is possible to construct surrogate markets to assign values to them and measure the amount of money that individuals are actually willing to pay for them. Examples of this second method include:

- the **travel cost approach**, under which economists identify how much visitors have paid, in time and transport costs, to travel to an area of outstanding natural beauty;
- the **hedonic pricing technique**, which measures the market value of property in an area of natural beauty, compared to property in an otherwise equivalent area but lacking that environmental benefit. It has recently been used by the London School of Economics to measure the impact of wind farms in a study which is referenced below.

The use of surrogate market prices can give accurate estimates of the value of environmental assets, and we would regard it as a close "second best" method to method 1, measuring the impact of human intervention on ecosystem productivity.

3. **Revealed Preference Techniques.** These techniques rely on surveys to test the response of individuals to particular schemes affecting their environment. Examples include "willingness to pay" surveys which ask visitors how much they would be prepared to pay, in principle, to visit a currently free-to-enter National Park.

In our judgement, this third approach can be a useful supplement to other evaluation methods. However, caution should be applied in using surveys as the principal method of measuring the likely economic impact of a scheme such as a wind farm, for the following reasons:

- a) Practical experience indicates that, even if carefully controlled, surveys can give misleading projections of actual visitor behaviour. In general, they tend to overestimate visitor responses, which can have serious consequences later.
- b) The results of a survey can be critically influenced by the way in which a particular question is asked.
- c) The results of a survey can be critically influenced by the sampling frame if it is not genuinely representative of the entire population.
- d) The conclusions drawn from the results of a survey can be influenced by the interpretation that a particular analyst wishes to place upon them.

All of these methodological weaknesses are evident in surveys undertaken by both supporters and opponents of wind farms.

## 6.2 The Applicant's Submission

Section 15 of the Eventus application is a socio-economic assessment of the likely impact of the wind farm scheme on the local economy which assigns monetary values to potential benefits of the scheme, but does not assign any values to potential costs. The stated justification is that any negative impacts will be "negligible". This approach is based upon a narrow body of research, funded by The Scottish Government directly (in particular the Glasgow Caledonian or 'Moffat' study [10]), indirectly (for example by VisitScotland [19]) or undertaken by the report's authors themselves on behalf of the wind farm industry ([2], [3]). It does not encompass all relevant types of cost.

In this section, we examine each of the impacts assessed in the application's Section 15, and comment on the valuation estimates.

### Construction Impact

In order to assess the impact of the construction of the wind farm on the local economy, the report carries out a four-stage analysis:

1. it estimates total capital expenditure on the project, at approximately £97m;
2. it estimates the composition of capital expenditure across different contracts;
3. it assesses the capacity of the business base in the Perth and Kinross area to carry out (and potentially gain from) the contract; and
4. it uses the resulting figure to estimate the local economic impact.

As a methodology, we consider that this is reasonable in principle. However, we would take issue with the applicant's estimates of the likely value-added of the capital programme for the local economy (the third step in the methodology), based upon the capacity of local businesses to carry out different contracts:

1. The total development and construction cost of the proposed scheme was estimated by the applicant by multiplying the expected installed capacity of 75 MW by the industry average development and construction costs per MW of £1.3 million. This gave a total capital cost of £96.9 million.

The composition of capital expenditure is split into four main contract categories: development and planning (8.4%), balance of plant (25%), turbine (59.6%) and grid connection (7.0%).

2. The application states that *“analysis of the Perth and Kinross economy found that there are a significant number of civil engineers and electrical power engineers in the area and the general construction, manufacturing and professional services sector is in line with the proportions for Scotland. Therefore, businesses in Perth and Kinross should be competitive applicants for the balance of plant and grid connection contracts. In particular the location of grid connection and operator companies in Perth and Kinross will result in a high proportion of these contracts (being) secured in Perth and Kinross.”* In our view this is highly speculative. Wind farm engineering is a specialist area, and it is far from clear that Perth contractors would win either the balance of plant contract – which is more likely to be awarded to an established international contractor – or the grid connection. Despite this, the applicant’s submission assumes significantly higher local value-added ratios for all four elements of the scheme cost than the Department of Energy and Climate Change (DECC) average metrics, as follows:

- Development and planning: DECC average 8%, applicant’s estimate of value-added for Perth and Kinross 23% (i.e. three times as great).
- Balance of plant: DECC average 19%, applicant’s estimate of value-added for Perth and Kinross 54% (again, three times as great).
- Turbine: DECC average 1%, applicant’s estimate of value-added for Perth and Kinross 2% (twice as great).
- Grid Connection: DECC average 6%, applicant’s estimate of value-added for Perth and Kinross 68% (eleven times as great).

On this evidence the application has exaggerated the likely value-added to the local economy from the construction programme to arrive at a total projected value to Perth and Kinross of **£19.5 million**. By contrast, application of the standard DECC industry average of local value-added results in a far lower estimate as follows:

- Development and planning: £0.8 million
- Balance of plant: £4.6 million (mainly civil works);
- Turbine: £0.5 million;
- Grid connection: £0.3 million.

The total Perth and Kinross share of the construction programme based on standard DECC metrics of local value-added would be **£6.2 million**.

In the absence of any empirical evidence to support the applicant’s base metrics we believe that £6.2m rather than the applicant’s estimate of £19.5m would be a more prudent and realistic estimate of the value-added from the construction programme for the area of Perth and Kinross. Using the same assumptions as in the application, this would imply that a total of 46 “job years” of temporary construction work would be supported within Perth and Kinross by the programme, compared to the

applicant's estimate of 145 job years (Section 15.4.11). Overall, the economic benefit to Perth and Kinross from construction would be one third of that claimed.

### **Operational Impact**

The applicant estimates (in Section 15.4.21) that average annual expenditure for operations and maintenance would be £52,659 per MW. On this basis, the annual operations and maintenance expenditure of the Talladh-a-Bheithe Wind Farm, with an installed capacity of 75 MW, would be £3.9 million.

More information is needed on the basis of this estimate as it appears to be high. More information would also be required on its *composition* in order to test the applicant's assertion that "*Perth and Kinross would be able to secure 35% of the operations and maintenance contracts*". If O&M expenditure relates principally to the maintenance and replacement of turbine parts then a more realistic assumption would be that very little of this expenditure would be retained within Perth and Kinross or even the UK as most would go to the turbine manufacturer, who is likely to be based abroad.

In the absence of this additional evidence, we have to doubt the applicants' estimate of "*£1.4 million GVA (Gross value Added) and 14 jobs in Perth and Kinross and £3.9 million GVA and 42 jobs in Scotland.*"

### **Public Finances**

The applicants state that, "*The proposed scheme would positively impact public finances, as the operator would be required to pay non-domestic rates.*" This is accepted as far as it goes but it is not clear to what extent this benefit would be retained by Perth and Kinross Council.

The out-turn value of these non-domestic rate payments would also need to be verified. The applicant's calculations are based upon an average load factor of 30% and a rates bill of £24,271 per annum per MW. As the total installed capacity of the proposed scheme is c75MW, the total non-domestic rates bill paid each year is estimated by the applicants at £1.8 million (£24,271 x 75). This calculation should be independently validated. The 30% provision is higher than the average UK load factor.

### **Community Benefit**

The applicant's submission states (section 15.6.4) that,

*"The Applicant has committed to complying with the Scottish Government's guidance on community benefit, which is £5,000 per MW. Based on an installed capacity of 75MW, this would provide £375,000 annually and over the lifetime of the project would be worth £9,375,000. This could have direct economic impact by supporting jobs to deliver the community benefit."*

The submission goes on to state that, in addition, "*the Applicant has committed to investigate and explore models of community ownership.*"

As general statements of intent by the applicant these are unobjectionable, and can probably be relied upon in the longer run *if* secured by a contractual condition on any purchaser of the project. (Whether they are legitimate in principle as financial incentives within public decision-making is altogether more contentious.)

A crucial economic issue is the extent to which these funds feed into the local community or 'leak' elsewhere. Depending upon the nature of the projects supported, it is probable that a significant proportion will be spent outside the area on, for examples, materials, supplies and equipment for local projects. In the absence of more detailed

information, a prudent assumption would be that 50% of the indicated amount might be retained within the area, or approximately £187,500 per annum.

### Tourism Impacts

The report states that, “*tourism impacts have been assessed using evidence from existing studies ... (and) in particular, work commissioned by the Scottish Government in 2008 (Glasgow Caledonian University, 2008 [10]) on the effects of wind farms on tourism, which remains by far the most robust and comprehensive source available.*” This is an aspect of substantial controversy, with major practical implications.

We disagree with the assertion in the application that this research is “*by far the most robust and comprehensive source*”, not least because its fieldwork was undertaken seven years ago in the summer of 2007, when wind farms were significantly less intrusive. The installed capacity of wind turbines operating in Scotland in 2007 was 1,150 MW, compared to 4,436 MW in early 2014 – nearly four times the level. Public responses appear to be changing as a consequence, particularly as wind farms are located in increasingly controversial areas – many easier sites having been taken.

Other methodological weaknesses of the Glasgow Caledonian (or Moffat) study are:

- it relied on surveys of stated *intent* and not actual actions (the Revealed Preference Method discussed above) which we do not regard as a reliable method for the reasons stated, and the results of which are open to differing interpretation;
- the interview programme for the study was of just 380 persons in total across Scotland, with only 13 in (lowland) Perthshire;
- all interviewees were selected from visitors to *built* tourist attractions – Stirling Castle, Callendar TIC and Tullibardine Distillery in the case of the Stirling and Perthshire group. It might fairly claim to have explored the impact of wind farms on visitors to *built* attractions but its sampling frame was simply inappropriate for a study of the motivations and responses of visitors to countryside areas, attracted in the main by the outdoors: camping, hillwalking, mountaineering and nature tourism, where landscape qualities are intrinsic to visitor attraction and enjoyment.

It should also be noted that the findings of the Glasgow Caledonian study are at variance with a wide range of surveys undertaken by other researchers across different countries in that it assigns a much lower negative impact to wind farms than do other studies. Even so, its actual survey results do not entirely support the applicant’s assertion that the negative impact of their wind farm scheme on local tourism will be “negligible”. The Glasgow Caledonian findings, in our view, do not represent the consensus and should not be represented as authoritative by the applicants. They are more fairly seen as an ‘outlier’ in terms of their assessment of the likely impact of wind farms on visitor response and behaviour, researched in very different circumstances and using a sampling frame which is irrelevant to Rannoch’s specific tourism offer.

Section 15 of the application cites VisitScotland Research which “*found that, for 83% of residents in Scotland, the decision to holiday in Scotland would not be affected by the presence of a wind farm.*” This finding, even if wholly justified, is of general tourism from Scotland and not specifically that attracted to the outdoor activities which are Rannoch’s offer. It also again means that the decision of 17% of those interviewed as to whether to take a holiday in Scotland *would be* affected by the presence of a wind farm – a significant impact which is not consistent with the claim in the application that a Talladh a Bheithe wind farm would have a *negligible* impact on local tourism.

The application cites the author's own analysis (BiGGAR Economics, 2013) "*that found, based on an analysis of wind farm scheme and tourism employment trends between 2008 and 2011 in each local authority area in Scotland, that there was no correlation between changes in wind farm capacity and tourism employment trends.*"

We would make the following comments on BiGGAR's 2013 study:

1. Only six sources are cited of the much wider range of research available but not referenced. The applicants and their advisers have been highly selective in the evidence used here.
2. The references relate to research undertaken before 2011, with the sole exception of the Mountaineering Council of Scotland's report, but further evidence of the impact of wind farms on tourism has been published since then.
3. The references are all to reports either paid for by the Scottish Government or undertaken by an agency of the Scottish Government (VisitScotland), so cannot be regarded as wholly disinterested. It would be highly unusual for any report funded by Government, or undertaken by a government agency, to be overtly critical of that government's policy. If an inconvenient conclusion (by an excessively brave consultant, perhaps) was anticipated, our experience of public consultancy is that it would probably not be commissioned in the first place, terminated before reaching finality, or paid for and buried. The BiGGAR economic report states that, "*as the studies reflect the views of the Scottish Government and the National Tourism Agency, it is appropriate to consider them here.*" The problem is that, precisely because they reflect prior views, their methodology and results may be unreliable.

It is disingenuous for Section 15 of the BiGGAR report to state that the findings of the Glasgow Caledonian research and VisitScotland research "*have been confirmed*" by its own report when the findings of the BiGGAR Economics report are largely based on the Glasgow Caledonian and VisitScotland reports. This is no form of independent confirmation; it is merely circular.

To the extent that the BiGGAR Economics report cites evidence *not* included in the earlier reports, it is very limited and selective. Section 3 of the report simply provides an overview of tourism trends in Scotland, while sections 4 and 5 attempt to measure the impact of wind farms in particular local authority areas. There are two methodological weaknesses with this approach:

- a) The report compares 2011 with 2008. The period of the analysis is too short – one would expect any response to wind farm to occur gradually over time and lag the construction of a wind farm, as awareness of its negative visual and noise impact progressively increases among actual and potential visitors.
- b) Numbers aggregated at national or entire local authority levels are simply not relevant evidence in a consideration of the specific local impact of wind farms. Those who are concerned about their impact argue that they displace some tourism from particular areas where they are intrusive, normally much smaller than an entire local authority area, without necessarily losing these visitors from the wider locality or authority area as a whole. If a wind farm was built at Talladh a Bheithe it could well have strong negative effects on visitor attraction, experience and enjoyment along the lochside and from areas where it was visible, but these effects might well not extend to Rannoch as a whole, even less to the whole of Perth and Kinross, and so not be revealed by statistical analysis at these higher levels. It is a major methodological impediment in researching real or imagined windfarm impacts on

tourism that data on trends in tourism is simply not collected at a sufficient level of granularity to allow examination of differential effects over distance. Local effects (which matter hugely to affected businesses) are simply subsumed by aggregation into authority-level reporting and so any evidence of local displacement is lost.

Section 15 of the application provides an incomplete summary of tourism businesses and accommodation providers who are likely to be affected by a Talladh a Bheithe scheme. In particular, the report only mentions camping once in passing (Section 15.3.44). There is in fact a very large and well-used campsite at Kilvrecht and there are also ‘wild’ campers around the loch and on the hills (and even at Kilvrecht) all year round. These campers contribute to the economy through shopping, meals at hotels, guest houses and other ways. When fishermen buy permits the money goes to the Loch Rannoch Conservation Association. There is a high risk that some ‘outdoor-focused’ visitors would desert the area as they are likely to be more averse than most to wind farms, as evidenced by the 2014 Mountaineering Council of Scotland survey (below).

In summary, we strongly disagree with the applicants’ conclusion that the impact of a Talladh a Bheithe wind farm scheme on local tourism, especially given its particular nature in Rannoch, 40 kilometres from the nearest built tourist attraction, would be “minor” or “negligible”. We also consider it likely that there would be local displacement of tourism both within and from Rannoch and that existing procedures for recording tourism data are just not appropriate to capture and record such local effects.

Section 15.5.9 of the Socio-Economic Assessment states that: *“If the proposed scheme does change behaviour, the economic impact of this change in individual behaviour is low as walkers and cyclists do not contribute significantly to the local tourism economy due to the few tourism businesses in the area. In addition a review of evidence in section 15.2 regarding the impact of wind farms on the tourism sector does not find evidence to suggest an impact will occur. Therefore the magnitude of this effect on the tourism industry a whole was assessed as low. When combined with the medium sensitivity of walking routes in general, this means that the overall significance of the effect would be minor. It is therefore unnecessary to consider this potential effect further.”*

This is just contrived. As most visitors to the area are walkers, fishers or cyclists the accommodation providers whom we consulted simply do not understand how these visitors cannot contribute significantly to the local tourism economy – especially as (and Section 15 correctly states this) it supports almost 50% of all jobs in the area. The reference to ‘*medium sensitivity of walking routes in general*’ is also contrived: the applicant’s own Figure 7.23 of ‘Principal Visual Receptors’ shows that significant lengths of Core Paths locally (key footpaths from Rannoch to Ericht or south to Glen Lyon) would be impacted: Core Paths are agreed to be *high* sensitivity receptors.

A further heroic and unjustified assumption in this application is that the visitors who stay in accommodation on any of the large estates come only for shooting and fishing, and so numbers in that sector would not be affected. (15.3.49, 15.3.52, 15.5.19). This is not justified and is based on no more than stereotype. Many, if not most, visitors come to the estates to walk, photograph, nature-watch or enjoy the scenery and the websites of the estates, including those of the Dunalastair Estate (<http://www.dunalastair.com/>) or Loch Ericht Estate (<http://www.lochericht.co.uk/>) emphasise this in their advertising but give low prominence to the ‘country sports’ offer. The websites show the actual offer.

In conclusion, the application, in so far as it relates to the likely impact of the wind farm on tourism, is based upon a narrow body of research, and the conclusions drawn are contrived and not consistent even with the very limited research cited.

### 6.3 Other Evidence of Wind Farm Impacts on Tourism

As stated in Section 15 of the application, overwhelmingly the main reason reported for visiting the area is general sightseeing (73%) and to enjoy the scenery (71%) followed by walking / hill walking / climbing (cited variously as 47% and 31% in different parts of Section 15.3.39 – an inconsistency which provides further evidence of the unreliability of surveys adduced earlier in this report). Any scheme which reduces visitor enjoyment of these activities is likely to have a negative impact on visitor experience and (over the longer term) on the number of visitors attracted to the area.

#### The Mountaineering Council of Scotland Survey

The Mountaineering Council of Scotland's March 2014 report: *'Wind farms and changing mountaineering behaviour in Scotland'* concluded that *"mountain-goers do not want to pursue their activity, and spend their money, in areas they regard as spoiled by industrial-scale wind farms. They are changing their behaviour to avoid such areas, and sometimes Scotland altogether."*

The survey on which this was based was carried out by the Mountaineering Council of Scotland between November 2013 and January 2014 and covered 970 respondents (that is, more than 2.5 times the sample in the 2007 Glasgow Caledonian survey) of whom two-thirds were MCS members. This survey found that:

- 67% of respondents thought that Scotland was becoming less appealing to walking and climbing tourists, with similar proportions thinking it already was (35%) or would become so as more wind farms were built (32%);
- 64% said that there were places in Scotland they were less likely to visit or revisit because of the presence of wind farms (with 32% disagreeing);
- those living outside Scotland were significantly more likely to agree that there were places in Scotland they were less likely to visit due to the presence of wind farms – at 74% compared with 61% for those resident in Scotland. This is an economically significant result because, if wind farms result in fewer visitors coming to Scotland from abroad it would cause a net loss of income to Scotland. Whilst Scottish residents might spend money saved on rural holidays on other services within Scotland, this would not be the case for English or overseas visitors who decide not to holiday in Scotland at all as a consequence of the presence of wind farms;
- 56% of respondents stated that they will adapt their future walking and climbing plans in response to the increasing number of wind farms in Scotland. 43% of respondents did not expect their mountain-going activity to change, though 15% expect their enjoyment to be diminished;
- 5% of respondents expressed a preference for accommodation with a wind farm in view but 73% did not want such a view.

These are highly negative results, which, if translated into actual behaviour, would lead to a prediction of a severe decline in local tourism in the highland Perthshire area surrounding the proposed Talladh a Bheithe wind farm.

The references to the MCoFS survey in Section 15.5.7 of the application do not report any of these results and give what we consider a misleading summary which implies broadly neutral results. The application presents the results of the MCoFS study as if these supported the applicant's conclusion of a probable "negligible" impact of this wind farm scheme on local tourism, which it most certainly does not.

The Mountaineering Council of Scotland also cite other public surveys which “*suggest a trend of rising visitor discouragement due to wind farms, from under 10% before 2008 (the year of the Glasgow Caledonian study) to 17% in 2011 and 26% in 2013.*” The surveys cited include a YouGov survey commissioned by Scottish Renewables in 2013 – i.e. commissioned by an organisation which supports wind farm development – which found that 26% of visitors would be discouraged by wind farms. MCofS consider that this “*suggests a lagged adverse response to the increase in turbines constructed and visible in the landscape. These figures provide no support for the proposition advanced by some applicants that, as more tourists see wind farms this will lead to conditioning visitors to expect their presence while visiting Scotland.*”

### **Other Evidence**

In addition to the Mountaineering Council's survey, there is a considerable body of research, mainly based on surveys, on the impact of wind farms on rural tourism. Relevant and recent findings include the following:

- Surveys consistently indicate that a significant number of those interviewed have a clear negative reaction to wind farms, with between 20% and 40% of those interviewed stating that wind farms spoil the landscape;
- Similar results for tourists reporting a general negative attitude to turbines in the landscape can be found across countries. For example, a study in the Czech Republic reported that 27% of surveyed tourists, who included Czechs, Germans and others, agreed that turbines adversely affect landscape character (Frantal and Kunc, 2011);
- Even the internet survey which formed part of the Glasgow Caledonian 2008 study found a more typical 18% saying they would not visit an area with a wind farm. In Ireland in 2007 [7] 75% of respondents said that expansion in wind farms would have no effect on a decision to come back – so the decision of the remaining 25% would be affected.

In light of this, we cannot agree that the Glasgow Caledonian interview study of visitor intentions is the authoritative study presented by the applicants, but rather is an ‘outlier’ whose results may be convenient but are at variance with a large number of other surveys undertaken by a range of researchers across different nations. Its results are even inconsistent with the wider internet survey within the overall Caledonian research.

### **Our Estimates**

Our reservations regarding the reliability of surveys as a method for estimating the economic value of environmental assets were expressed earlier. Notwithstanding these reservations, in the absence of valuations based upon more robust methods, such as a measurement of the impact on ecosystem productivity or the use of surrogate market prices, survey results represent the ‘least bad’ evidence available to us.

The weight of opinion as revealed by surveys carried out over a number of years across different countries indicates that visitors to country areas tend to dislike wind farms, and to state that their decision to visit may be affected by the presence or otherwise of these.

The applicant’s submission has been carefully selective, and has in particular placed undue weight on a single interview-based study – that of Glasgow Caledonian – which was undertaken in very different circumstances of wind farm visibility, was of visitors to indoor and heritage attractions rather than to countryside and whose results seem to be an outlier compared to other surveys. This must raise doubt on the methodology

used and whether the population sample interviewed (just 380 respondents) was genuinely representative. That said, even the Glasgow Caledonian survey indicated that the growth of wind farms would have a small negative impact on visitor numbers.

Our overall conclusion is therefore that the assertion of the applicants, that the impact of the Talladh a Bheithe wind farm on local tourism would be "minor" or "negligible", is simply not justified on the basis of evidence.

Most surveys find that between 20% and 40% of all visitors state that they would be less likely to come to an area if it had industrial-scale wind farms. The percentages may well be even higher for hill walkers and mountaineers, according to the Mountaineering Council of Scotland's 2014 survey. This has, however, to be caveated: it is a well-established fact that respondents may overstate their reaction to any particular scheme in surveys of intentions. Therefore, our view must be that the actual impact of any wind farm scheme on visitor numbers might be less than that implied by survey results.

Our estimate is that the displacement effect on local visitor numbers and tourism revenues would be between 7.5% (low case) and 15.0% (high case) of current levels in the vicinity of the wind farm, defined as the area from which it will be visible, or a radius of approximately 15 km.

As stated in Section 15.3.68 of the application, tourism expenditure across Perth and Kinross was approximately £190 million in 2012. Of this amount, we estimate that between 3% and 4% was generated within the area affected by the wind farm as defined – i.e., total revenues in the area from tourists are currently between £5.7 million and £7.6 million per annum. This includes all tourist expenditure such as accommodation, food, beverages and meals out, shopping, leisure activities and travel.

On this basis, the expected loss of income annually from even minor and local displacement by a wind farm would be  $11.25\% \times £6.65$  million, or approximately £750,000 p.a., leading to a loss locally of the equivalent of approximately 19 full-time jobs based on an average turnover per job of £40,000.

These should be regarded as provisional figures, and within a wide range. At the upper end of the range, the loss of income could be £1.14 million per annum =  $15\% \times £7.6$  million.

Further research is badly needed on this issue if decisions on wind farm consents are to be properly informed – and we are not alone in that view. We note that Malcolm Roughhead, the Chief Executive of VisitScotland, wrote on 28 June 2014 to one of Rannoch's key accommodation providers that: *“since the beginning of 2014, VisitScotland has been consulted on 28 renewable sites across Scotland - either through scoping opinion requests or application representations. In each response to developers, via the Scottish Government, we continue to push for Tourism Impact Statements to be drawn up as part of the Environmental Impact Analysis, and prior to any approval process. It continues to be imperative that any potential detrimental impact of the proposed development on tourism - whether visually, environmentally and economically - be identified and considered in full.”*

#### **6.4 The Impact of a Wind Farm on Property Prices**

The applicant's submission does not take account of the possible impact of the proposed Talladh a Bheithe wind farm on property prices. However, as noted above, property values are regarded by economists as a reliable measure of differences in amenity and environmental value.

By applying the hedonic pricing technique described in 6.1, economists can measure the impact of human intervention on the environment by changes in property prices, both built property and land. Increases or decreases in the market price of buildings and land, compared with a general market index, can be used to value the extent to which the external environment in which they are located has improved or deteriorated. We regard this technique as a superior method of measuring economic value than surveys of stated intentions, as it is easier to validate results through external statistical evidence which cannot be manipulated. Results secured through this technique are therefore less vulnerable to unconscious bias than survey-based estimates.

Research using this method has recently been published by the London School of Economics and Spatial Economic Research Centre, undertaken by Stephen Gibbons, and entitled *Gone with the wind: valuing the local impacts of wind turbines through house prices*. We believe that this study is methodologically robust<sup>2</sup>.

Based upon the research reviewed, we would classify the effect of wind farms on property prices at three levels:

1. Impact of wind farms on property prices and tourism within their immediate vicinity, where turbines are both highly visible and highly audible – approximately within a 2 km radius (there are no such residential properties in this case)
2. Impact on property prices and tourism within an intermediate area where the turbines are visible but the noise impact is less – approximately within a 2 km to 4 km radius (again, there are no such residential properties in this case).
3. Impact within a wider area, where there is little or no noise impact from turbines, but where they are still visible and intrude upon the landscape – defined as being within a radius of between 4 km and 15 km or the limits of visibility of a wind farm.

### **The Hedonic Pricing Method: The Gibbons Study**

In contrast to the somewhat impressionistic nature of research based on surveys of stated intent, a recent study, entitled *Gone with the wind: valuing the local impacts of wind turbines through house prices* by Stephen Gibbons applies rigorous econometric analysis to assess the impact of wind turbines on property prices in areas affected by them, compared to similar properties in areas without any wind farms.

In our view, the methodology used is robust and based on a significant sample of housing transactions. It is also cautious and aims to under- rather than over-state the effects. The author comments that, “*there is therefore a much greater chance than in previous work of detecting price effects if these are indeed present.*” In addition, the focus of the study is on the visual impacts of wind farms in rural areas, which could be taken as a valid comparator for the area affected by the Talladh a Bheithe wind farm.

Key findings from the research include the following:

- “*prices in places where wind farms are close and visible are reduced substantially after a wind farm becomes operational. The price impact is around 7% within 1km, falling to 6% within 2km, 3% within 4km. Within the 8km or 14km radius, the effect is less than 1%*” (The nearest house here would be some 5km from the site. Note: this comment refers to smaller wind farms of up to 11 turbines.)

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<sup>2</sup> There is another factual indicator: in a landmark 2008 case (Valuation Tribunal Council tax appeal from Jane Davis) the VTC accepted that close proximity of wind farms can affect house prices and that the appellant should pay lower council tax because her home had lost value as a result of the construction of a wind farm. This ruling is effectively an official admission that wind farms can have a negative effect on house prices.

- “*bigger wind farms have a bigger impact on prices at all distances. A wind farm with 20+ turbines within 2km reduces prices by some 11% on average.*” This finding is of relevance to Talladh a Bheithe, which will have 24 turbines;
- in considering the reasons for the “*bigger the farm – bigger the impact*” finding, the author states that, “*this price effect could relate to noise and visual flicker problems....However, even at 8-14km there is a 3.7% reduction in prices associated with large visible operational wind farms*”;
- the paper concludes that a refusal of planning permission “*seems to be associated with positive price effects, and these are very large close to the proposed wind farm locations.*” This result is striking and not immediately intuitively obvious. In seeking an explanation for a price bounce following refusal of planning permission for a wind farm, the author suggests “*that refusal of planning permission may trigger price effects, if it signals to home owners and buyers that the local planning authority will be unwilling to proceed with future wind farm schemes in the local area*”;
- finally, the author cautions that, while the research applies a number of robustness tests, “*the findings should be interpreted with some ‘health warnings’.*” In particular, he states that “*the data lacks historical information on the timing of events leading up to wind farm operation (announcement, approval, construction etc.) so the price effects reported relate to the difference between the post-operation and pre-operation periods. However, the wind farm scheme cycle can last a number of years, and price changes evolve fairly slowly over time in response to events. The most likely consequence of this is that the results underestimate the full impact between the pre-announcement and post-construction phase.*” That last point should be noted: there is a systematic bias towards underestimation due to data availability.

The paper concludes that,

*“Well established theories (Rosen 1974) suggest that these price effects can be interpreted as marginal willingness to pay to avoid the dis-amenity associated with wind farm proximity and visibility, net of any benefits provided by the wind farms in terms of economic opportunities, community payments or other financial compensation.*

*If we take the figures in the current paper seriously as estimates of the mean willingness to pay to avoid wind farms in communities exposed to their development, the implied costs are quite substantial. For example, a household would be willing to pay around £600 per year to avoid having a wind farm of average size visible within 2km, or would be willing to pay around £200 per year to avoid having a large wind farm visible within 8-14km. The implied amounts required per wind farm to compensate households for their loss of visual amenities is therefore fairly large: about £12 million for a typical 11 turbine wind farm. The corresponding values for large wind farms will be much higher than this, as their impact is larger and spreads out over much greater distances.”*

### **Our Estimates**

We give weight to the findings of *Gone with the wind* because it represents the most rigorous and comprehensive study of the impact of wind turbines on property prices that has yet been produced, and may be regarded as genuinely independent of either the wind farm lobby or anti-wind farm campaigners. As stated in the paper, its results may also be regarded as prudent and, if anything, err on the side of caution in that they only take account of property prices before and after a wind farm becomes fully operational, rather than over the full duration of the wind farm development cycle.

For these reasons, we regard it as a robust basis on which to build estimates of the likely impact of a Talladh a Bheithe wind farm on the market value of surrounding properties. Its results suggest that, within a 2 km to 8 km radius of a wind farm of the scale proposed for Talladh a Bheithe, property prices are likely to fall by approximately 6%, and within 8 km to 14 km by approximately 4%.

Precise details on the number and value of properties within these radii has yet to be secured. On a first, working estimate, we calculate that approximately 200 residential properties could be affected, with a combined market value of circa £60 million at an average value per property of £300k (on a mix which includes some substantial country and estate houses but a majority of more typical homes). Assuming a negative impact of 6% (on average) on the value of these properties, there would be an aggregate loss of £3.6 million in their market value in the event that the wind farm was developed.

These results should be regarded as provisional, and we would wish to see further research undertaken on the number, value and proximity of affected properties prior to any final decision on the granting or withholding of consent for this scheme.

## 6.5 Conclusions

What is surprising is the extent to which statements made on the potential socio-economic impact of wind farms in general, and the Talladh a Bheithe wind farm in particular, are based on supposition, conjecture, and assertion, unsupported by hard evidence or statistical analysis.

In 6.1 we stated our reservations regarding the method principally used to assess the potential impacts of wind farms, namely surveys of opinion or stated intentions. In the absence of any more rigorous evidence, such surveys offer the ‘least bad’ evidence base available and can be used, provided this is done in a balanced way, taking account of all available information and interpreting it in a balanced and representative manner.

These conditions are not met by the applicant’s submission which is based, not on a balanced appraisal of the available evidence, but rather on a selective, and in some cases misleading, interpretation of a very limited number of surveys. With the exception of the 2013/14 survey of the Mountaineering Council of Scotland, these surveys were funded by the wind farm lobby itself, or by the Scottish Government, which has a policy of strong support for wind farms, and many of them are, frankly, irrelevant to current circumstances. They cannot, therefore, be regarded as a sound basis for decisions.

We have examined a wider range of evidence, including research undertaken by reputable economists with no obvious interest, and which has been peer-reviewed. This evidence indicates that the Talladh a Bheithe wind farm is likely to have a material adverse impact upon local property prices, visitor attraction, enjoyment and expenditure, and therefore the incomes and jobs of those dependent upon the sector.

In summary, based upon the available evidence, our provisional estimates of the economic impact of the Talladh a Bheithe wind farm scheme on the economy of Perth and Kinross are as follows:

- the region would benefit from construction expenditure provisionally estimated at £6.2 million. Against this, there would be a net loss in property values in the immediate surrounding areas provisionally estimated at £3.6 million. The net benefit over the period of the construction programme is therefore estimated at £2.6 million for the region;

- the extent to which the region would benefit from operation and maintenance expenditure remains uncertain and dependent on multiple future decisions;
- based upon the applicant's submissions, we estimate that there could be a retained 'community benefit' of approximately £190,000 per annum, from payments from the wind farm operator. However, the quantum of these payments, the area and communities eligible to receive them and the use to which they are put need to be defined more precisely in order to confirm the value of this potential benefit;
- against this, our best estimate is that there will be a loss of tourism income to the Rannoch area of £750,000 per annum (though some of this might be retained within the wider local authority area if 'displaced' tourists move elsewhere within it.)

Overall, therefore, the net annual loss to the area will be approximately £560,000 (= £750,000 - £190,000). Discounting this net loss against the initial benefit of £2.6 million over 15 years generates a negative real economic rate of return of 20.2%, and a negative Net Present Value, applying HM Treasury's Green Book discount rate of 3.5%, of £3.7 million.

**Based upon these provisional estimates, the scheme would be significantly value-destroying to the overall Perth and Kinross economy (and that of Rannoch).**

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*The above results have been calculated within the short period allowed for public consultations and are necessarily provisional. Further research will be undertaken on the likely impact of the scheme if it proceeds to PLI, based as far as possible on the first two methods set out in 6.1 – i.e. its impact on ecosystem productivity and on surrogate market prices – rather than on opinion surveys. For the longer term, it would be of immense assistance if a study could be undertaken by an independent economic research institute of the actual performance of local tourism in areas where wind farms have been developed, analogous to the Gibbons research undertaken by the LSE on the actual performance of property prices. Such research would collate information on:*

- *the locations of existing wind farms;*
- *visitor numbers and expenditure in those areas in the 3-5 years before they were developed, e.g. using local STEAM data;*
- *visitor numbers and expenditure in those areas in the 3-5 years after they were developed, using the same data (i.e. a consistent data series);*
- *control cases of areas which are similar but did not have wind farm construction.*

*The evidence base for assertions on the level of impacts of wind farms on tourist numbers and spend is poor inter alia because:*

- *tourism statistics are simply not collected at an appropriate level of granularity to inform such research; and*
- *neither 'objectors' nor applicants have any material interest in funding a controlled, longitudinal study of pre- and post-construction impacts.*

*Until and unless we have such robust statistical evidence on the actual impact on visitor numbers and expenditure in areas where wind farms have been developed, compared to control cases and national trends, the socio-economics of wind projects will remain unnecessarily controversial.*

## 7. ACCESS, TRAFFIC AND TRANSPORT IMPACTS

### 7.1 Access To and From Loch Ericht

The access issues at both ends of Loch Ericht – land access, barging and jetties - are given unreasonably slight treatment and substantive logistical and contractual matters are postponed until *after* a possible consent (3.3.16). This is particularly important as Loch Ericht is intended to be a major access route in the applicant’s Option 1 - or *the only* access route in Option 2 - for components and materials, and the choice between Options 1 and 2 will significantly affect the location and scale of the proposed two crane pads and set-down areas. The best treatment of these issues in the application is in paragraphs 4.19 to 32 of the Transport Statement but even this is remarkably weak. Paragraph 4.26 acknowledges that ‘*the water levels (on Ericht) vary considerably ... (leading the applicant to the view that) ‘the exact location of the crane pad and set-down area on the lochside will be determined when a final construction programme is in place.’*’ This avoidance of substance is wholly unsatisfactory but a constant theme in this application.

In respect of Dalwhinnie we understand that:

- there has been no agreement for use of the applicant’s preferred access route - to the north west shore of Loch Ericht via the A889 to the west of the railway and an altered forest track;
- There is a large water main under the track bed of the rail underpass at NN635841 which currently provides constrained access to the southern shore, and that water main precludes enlargement of the underpass;
- there is, at least as yet, no substantive agreement with Network Rail that major components *can* be craned over this main operational rail line to Inverness;
- there is, as yet, no substantive agreement with the relevant landowner that components can be moved across the land between the railway and an intended new jetty and set-down area – which are themselves of indeterminate size and location.

The applicant *does* provide a plan of the proposed main construction site (Figure 1.2) which includes a possible location for the proposed set-down (transshipment) area at the south of Loch Ericht but we must assume that this is also subject to the general caveat at paragraph 4.26 of the Transport Statement. On the landscape implications, we can only conclude that a jetty and transshipment area of undefined sizes and locations are intended where the site slopes down to Loch Ericht but they (in common with all infrastructure other than the turbines themselves) are shown on none of the applicant’s visualisations.

### 7.2 Access To and From Rannoch Station

The proposed arrangements for train transport of tower sections, turbines and nacelles to Rannoch Station via the West Highland Line (which might be used under the applicant’s Transport Option 1) is referred to only in the briefest and least satisfactory of terms at 14.9.1. *et seq.* This is a substantive concern as the area which might be available to the applicant at the Rannoch Station rail sidings (again, we understand that no agreements are in place for rail transport to, or use of, the sidings, and that the applicant’s preferred transshipment arrangements elsewhere were refused) is limited and

there are safety constraints on the proximity of crane operations to the high-voltage power line which crosses the south part of the sidings by the level crossing access.

We are concerned that:

- turbine components would be delivered by rail on ten freight trailers and would be unloaded at night during the available window when passenger services do not operate. (Transport Statement at 4.15). Currently the last passenger train at night leaves at 21.08hrs and the first train in the morning arrives at 08.40hrs which gives at maximum of 10.5hrs to unload, working throughout the night. A crane would be needed to unload the wagons, the wagons would need to be shunted into position and possibly de-coupled and components stacked or loaded onto road vehicles. This activity would create considerable noise for the residents close to the Station and to the guests and owners of The Moor of Rannoch hotel just a short distance away.
- people and traffic using the section of the B846 between Kinloch Rannoch and Rannoch Station will be particularly at risk due to the combination of a poor road, unusually high numbers of pedestrians and cyclists and the large percentage increase in vehicle numbers, particularly HGVs, likely to be generated. This section is single carriageway along its 18 mile length with many twists, turns, "blind bends" and bridges. It is a minor road and so is likely to damage readily under the stress of the predicted increase in numbers of HGVs. There are no purpose-built passing places, just the occasional naturally formed lay-by or a convenient driveway entrance to allow passing. There are no footpaths and in most areas no verge to speak of. At its widest it is approximately 5 meters and at its narrowest it is approximately 3 meters. Cyclists often use this road, especially during the tourist season, to cycle round the Loch, train for the 'Caledonian Etap' or visit Rannoch Moor and the Station, often accompanied by their children. Walkers (and campers) are usually to be found along the loch side, again often with their children. It is regularly used by local horse riders to access the bridleways in the forestry.
- the storage constraints of the site and larger number of individual components in this particular project might force vehicle movements from Rannoch Station to Camusericht beyond those scheduled, increasing the likelihood of traffic restrictions on the sole access road to Rannoch Station as trains arrive and depart. Even planned movements of HGVs on this narrow and winding road risk disruption of journeys to catch trains or meet people from trains;
- there is apparent inconsistency on vehicle sizes in that the application states *inter alia* at 14.9.1 that '*Upon arrival at Rannoch Station, abnormal load vehicles will collect the turbine components and deliver these sections to the site via the A846*', 14.10.3 refers to an estate access configured '*to accommodate all abnormal sized loads*', see also 4.12, yet the applicant's agents have been assuring local businesses and individuals orally that the constraints on rail transport would have the beneficial consequence of obviating the need for abnormal load road vehicles between Rannoch Station and Camusericht. It would be useful to know which is the case.
- the repeatedly-asserted 'precedent' of the construction of the SSE 'Loch Erich dam' (14.9.3) or 'Loch Erich Hydro Scheme' (para 4.3 of the Transport Statement) which is taken by the applicant to establish '*the principle of access (from) the B846 for construction-type vehicles*' (it was actually the Grampian Electricity Supply Company's Tummel Scheme, completed in 1933) is totally unconvincing without

any statement whatever of the transport routes used then or the relevance of road conditions and vehicle types of eighty years ago.

- Overall, the large percentage increases in vehicular traffic predicted at Section 6 of the Transport Statement for the B846 and A889 – even if accurate – do not sustain what we see as an excessively complacent summary of their significance at 6.10 and the conclusions of the Transport Statement.

### 7.3 Access To and From the A9

There is no clarity on the intended routing of construction vehicles from the A9 to the B846 and thence to the site (3.3.14 and 14.9.2). In reality, there are several possible alternatives available for moderately sized HGVs or passenger vehicles, including the B847 via Struan and Trinafour, the B8019 from Pitlochry and the B827 via Aberfeldy. It would be helpful to know which single route or mix of routes is intended, given that these are all narrow and twisting minor roads and would have different impacts on intermediate communities. The reconfiguration of access from the A889 at Dalwhinnie is poorly explained, as is the ‘*road widening on the A889 on approach to the temporary site compound*’, referred to in the Executive Summary of the Transport Statement.

We are not convinced that the number of HGV trips recorded by the ATC Counter on the B846 was accurately stated at an average daily count of 23 two-way trips. The ATC Counter was *in situ* for the first two weeks in June and yet data is offered selectively for Mondays, Tuesdays and Fridays only. In reality very few HGVs need to come this far west (most will stop at the denser settlements east of that point) and our experience from many years of this part of the B846 is that typical HGV movements are around 6 (12 two way trips) per day and on many days none at all. On the basis of calculation in table 14.8 we consider that a more realistic percentage should be based on an average of 12 trips per day which would achieve an effective increase of up to 408%. The siting of the ATC will have significantly skewed the reported results in any case. If the ATC had been positioned on the B846 just to the east of The Loch Rannoch Hotel, ALL of the traffic using the narrow and winding loch road would have been captured.

All options are held open on materials transport to the point that no clear plan is offered: Chapter 4 of the applicant’s main ES - Construction and Decommissioning - states at 4.6.4 that ‘*A number of other vehicles would bring materials to the site, but would not be stored at the site. These would include lorries with flatbed extendable trailers for carrying smaller turbine components including transformers and cabling. Lorries would also be used for the delivery of steel reinforcement, building elements and materials. Concrete lorries with revolving drums would be used to deliver concrete. Lorries carrying water, fuel and equipment would also be used.*’ (Our estimate is that this would require 50 ready-mix concrete lorries with a 20-ton payload or 100 two way trips in one day per base, one every 5 minutes, and yet this is not addressed in the ES. There would be 24 days during construction when the B846 was completely gridlocked.) Later in the same section the applicant suggests the possible use of a mobile concrete batching plant to limit the need for external concrete wagons to enter the site and as a final possibility paragraph 4.34 of the Transport Statement suggests that, ‘*if feasible, steel, brick, sand, cabling etc will be transported to the site by barge*’. That last would certainly reduce the transport impacts on Rannoch but at the cost of transferring these to Dalwhinnie.

Overall, we believe that the applicant has understated the probable increases in traffic volumes generated on the B846 by this project, and the impacts of this on residents living along the road between Kinloch Rannoch and Rannoch Station. The applicant’s

website states: *"It is acknowledged that the existing road network around Loch Rannoch is unsuitable for high volumes of traffic, especially HGVs and abnormal loads"*. In reality, the roads around the loch have little capacity to absorb *any* more traffic.

#### **7.4 Inconsistent Statements of Estate Road Widening**

The statements of the proposed widening of the 3m-wide estate road from the B864 access are inconsistent, given at 4.7.3 as *'widened and upgraded to a suitable width, typically 5m wide'* with additional widening at bends for 'oversail' but at para 3.5 of Appendix 4.1 as *'It is proposed to widen the road to 6m to accommodate daily site traffic and abnormal loads'*, plus again additional widening at bends for 'oversail'. Consistency in project specification is always good and this, after all, proposes to more than double the width of an estate road through a National Scenic Area.

#### **7.5 Summary of Access, Traffic and Transport Issues**

In summary, we have already remarked on the weakness of many key transport and construction-related elements of this application in earlier Sections 2.2 'Weaknesses in the Documentation' and 2.3 'Implementation Difficulties' of this Objection. The least problematic statements on transport and construction issues are those in the Transport Statement by ECS but even this frequently postpones real choices and solutions to real problems across the wide geography and scope of the application until *after* a requested consent – which is simply unreasonable in our view and restricts public scrutiny.

A major construction project in such a remote area would always have very considerable logistical difficulties (even if uncontentious and based on current Ministerial planning guidance) due to the weak transport links and distances involved but even so, in the author's judgement, the application is not yet stated in sufficient detail and certainty to be properly assessed. We support the requirement of the Planning Authority at Scoping Opinion stage for a *'comprehensive Transport Assessment'* and *'full Construction Method Statement'* before this scheme is considered, but we do not believe that any satisfactory and reliable Assessment and Method Statement have yet been offered.

## 8. SUMMARY OF OBJECTIONS

We are not opposed to wind energy in principle, only where it is proposed for inappropriate places. It should be an element of a balanced energy policy for our times. We simply believe that this particular scheme would impose unacceptably massive man-made structures and infrastructures on a wild, remote and cherished landscape. It would be totally insensitive and discordant in this particular place and do incalculable damage to the outstanding landscape and habitat qualities of this part of Rannoch.

### 8.1 Objections on Landscape

Overall, it is submitted that Ministers' policies on wind farm schemes affecting National Scenic Areas and the qualified but '*significant protection*' now accorded to mapped areas of Wild Land should preclude any consent on this site. The qualification that any applicant for a scheme on such land would '*be required to demonstrate that any significant effects on the qualities of these areas can be substantially overcome by siting, design or other mitigation*' appears highly improbable if not impossible here as the site is actually entirely open to the west rather than an enclosed 'bowl' as asserted.

1. A turbine array and its extensive infrastructure on this site would be substantially visible and intrusive for c15km of the '*high sensitivity receptor*' West Highland Line approaching Rannoch Station from north or south. This has received scant attention from the applicant, perhaps in part because the potential views from the trains are currently obscured by forestry plantation. This forestry, however, is mature, recently offered for sale and is likely to be cleared soon. To date, no other windfarm is visible from the West Highland Line (Figs 7.51-3) but this scheme, if consented, would change that position dramatically;
2. It would dominate views from the core footpath from Rannoch north to the Ben Alder group of hills. The current sole visualisation from that path (EV10) shows its likely prominence even without jetty or infrastructure, but it would actually be even more intrusive from points on the track to the south of this viewpoint. The wind farm would also be intrusive from other core footpaths south to Glen Lyon and west to Glencoe. (Fig 7.23);
3. It would be unacceptably intrusive from the small viewpoint hills immediately south of Loch Ericht, degrading the finest views up the Loch with its wild land surroundings (pages 4,7 and 8 of 'A Site Too Far');
4. The site is inclined towards, below, and within 8km direct vision of the tops and east slopes of the unspoilt Beinn Pharlagain to Sgor Gaibhre and Sgor Choinnich Ridge (pages 14 and 15 of 'A Site Too Far' and Eventus visualisation 22);
5. The site would be in plain view from the southern access routes up Ben Alder via Bealach Breabag, Sgairneach Mhor and the south ridge, remote, wild and deeply cherished (page 11 of 'A Site Too Far' and – with reservations - Eventus visualisation 23);
6. The turbines would dominate views from the south rim of Ben Alder's summit plateau, as shown in the underlying photograph which is centred on the proposed site as it is (page 12 of 'A Site Too Far');
7. The scheme would require the estate track from Camusericht to be doubled in width, with further widening for 'oversail', for approximately two kilometres within the National Scenic Area.

## 8.2 Objections on Habitat and Environment

The topography of the proposed site is a shallow valley, typical of many in the Scottish Highlands, with a peat cover which averages c0.7m. What makes it special as a habitat is its proximity to an unusual concentration of active nest sites of eagles, ospreys and many other rare species of protected birds, coupled with its relatively lower elevation which makes it particularly valuable to many of those species in poor and cold weather.

8. the proposed site is a known hunting area for eagles and directly adjacent to the higher crags on which they nest. Eagles, especially immatures, overfly it looking for territories of their own from established nests both north and south of Loch Rannoch. There is a real likelihood that they will be displaced by construction works – including barge movements on Loch Ericht and human activity on the site itself - and such displacement might prove permanent. If the scheme is constructed, some eagles may well be injured or killed by turbine blades;
9. Ospreys are frequently seen hunting on Loch Ericht and Loch Mheugaidh and move between these lochs from nest sites in the Strath Ericht forestry and nearby. Again, there are risks of displacement from habitat and of injury or death;
10. Other raptor species which are known to use this site include harriers, peregrine, merlins and kestrels. Other avian species include red and black-throated divers, moorland waders and grouse:

(We know that representations are being made on these sensitive avian issues by inter alia George Macdonald, until recently Head Keeper on the Camusericht Estate, and Logan Steele, licensed to observe eagles by SNH. We have discussed their concerns directly with them and record our appreciation and support for their expert submissions.);

11. Protected mammals known to use this site include otters and pine martens, which may be displaced by human activity.

## 8.3 Objections on Socio-Economic Impacts

12. the applicant has exaggerated the likely value-added to the local economy from a construction programme for this scheme by applying metrics well in excess of the standard DECC industry average of local value-added;
13. the applicant has exaggerated the likely value-added to the local economy from a maintenance programme for this scheme by what we consider an unjustifiably high assumption of 35% for work which might be retained locally: we do not consider that the evidence provided supports the applicants' estimate of “£1.4 million GVA (Gross value Added) and 14 jobs in Perth and Kinross and £3.9 million GVA and 42 jobs in Scotland.”
14. The applicant has claimed that any adverse impacts on tourism (the most important sector of the local economy) would be ‘negligible’ but has failed to appreciate the particular characteristics of the local tourism offer (which *inter alia* make the standard ‘Moffat’ arguments irrelevant and Rannoch’s tourism offer unusually vulnerable to landscape intrusions), specifically misunderstands the tourism role of the estates and apparently has not noticed the role (or even

existence) of a very large Forestry Commission campsite, all of which undermine his main assertion here;

15. The applicant has simply failed to factor the costs of transport-related disruption at individual, business (especially those at Rannoch Station) or community level into estimates of net value;
16. The applicant has again failed to factor reductions in property values into estimates of net value to the community and the wider area;
17. Overall, our initial calculations, including some elements of cost ignored by the applicant but nevertheless relevant to assessments of economic impacts<sup>3</sup>, show that the scheme would result in a net annual loss to the area of approximately £560,000, a negative real economic rate of return of 20.2%, and a negative Net Present Value (on HM Treasury's Green Book basis) of £3.7 million and so be significantly value-destroying to the overall Perth and Kinross economy (and that of Rannoch).

#### **8.4 Objections on Access, Traffic and Transport**

18. Transport Option 1 within this scheme would require transshipment of most tower, nacelle and turbine components at Rannoch Station over a maximum of 10.5 hours starting at 21.08 at the earliest. A crane would unload the wagons, the wagons would be shunted and possibly de-coupled and components stacked or loaded onto road vehicles and some at least moved out. This activity would create considerable noise, lights and disturbance to residents by the Station and to the guests and owners of The Moor of Rannoch Hotel;
19. This proposal would cause considerable disruption to businesses, visitors and residents who rely on the scenic West Highland Railway to access the area. Traffic management of the sole road access - the narrow B846 between Camusericht and Rannoch Station - given the large number of components required by the logistics of this particular scheme and the restricted storage area available at the sidings, will inevitably lead to delays and missed trains;
20. there is apparent inconsistency in the documentation and oral statements by the applicant and his agents on whether abnormal load road vehicles would be used between Rannoch Station and Camusericht;
21. there will be heightened safety risks on the section of the B846 between Kinloch Rannoch and Rannoch Station due to the combination of a poor road, unusually high numbers of pedestrians and cyclists and the large percentage increase in vehicle numbers, particularly HGVs, likely to be generated. This section is single carriageway along its 18 mile length with many twists, turns, "blind bends" and bridges. There are no purpose-built pavements or passing places and in most lengths no verge to speak of. At its widest it is approximately 5 meters and at its narrowest it is approximately 3 meters;
22. the asserted 'precedent' of the construction of the Grampian Electricity Supply Company's Tummel Scheme of 1933, claimed to establish 'the principle of access (from) the B846 for construction-type vehicles' is totally unconvincing;

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<sup>3</sup> Time has precluded an examination of the likely costs of disruption to individuals, businesses and the community in the construction phase – most from transport difficulties on Rannoch's weak infrastructure. IF this proposal proceeds to PLI we would intend to revise and strengthen further the overall economic analysis, including this.

23. overall, the large percentage increases in vehicular traffic predicted at Section 6 of the Transport Statement for the B846 and A889 – even if accurate – do not sustain what we see as an excessively complacent summary of their significance at 6.10 and the conclusions of the Transport Statement. We believe that the applicant has understated the probable increases in traffic volumes generated on the B846 by this project, and the impacts of this on residents living along the road between Kinloch Rannoch and Rannoch Station. The applicant’s website states: "*It is acknowledged that the existing road network around Loch Rannoch is unsuitable for high volumes of traffic, especially HGVs and abnormal loads*". In reality, the narrow roads around the loch have little capacity to absorb any significant traffic increases;
24. there is no clarity on the intended routing of construction vehicles from the A9 to the B846 and thence to the site;
25. the reconfiguration of access from the A889 at Dalwhinnie is poorly explained, as is the ‘road widening on the A889 on approach to the temporary site compound’, referred to in the Executive Summary of the Transport Statement; and
26. all options are held open on materials transport (including heavy loads of concrete, sand and steel) to the point that no clear plan is offered. The applicant’s musings range from ‘all via the B846’, through impacts mitigated by using an on-site concrete batching plant to ‘all through Dalwhinnie and then barge on Loch Ericht’. We do not see how any project can be sensibly assessed on this uncertain basis.

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**The ‘Keep Rannoch Wild’ group of Rannoch inhabitants and their supporters ask Ministers to refuse this application *inter alia* because the proposal is:**

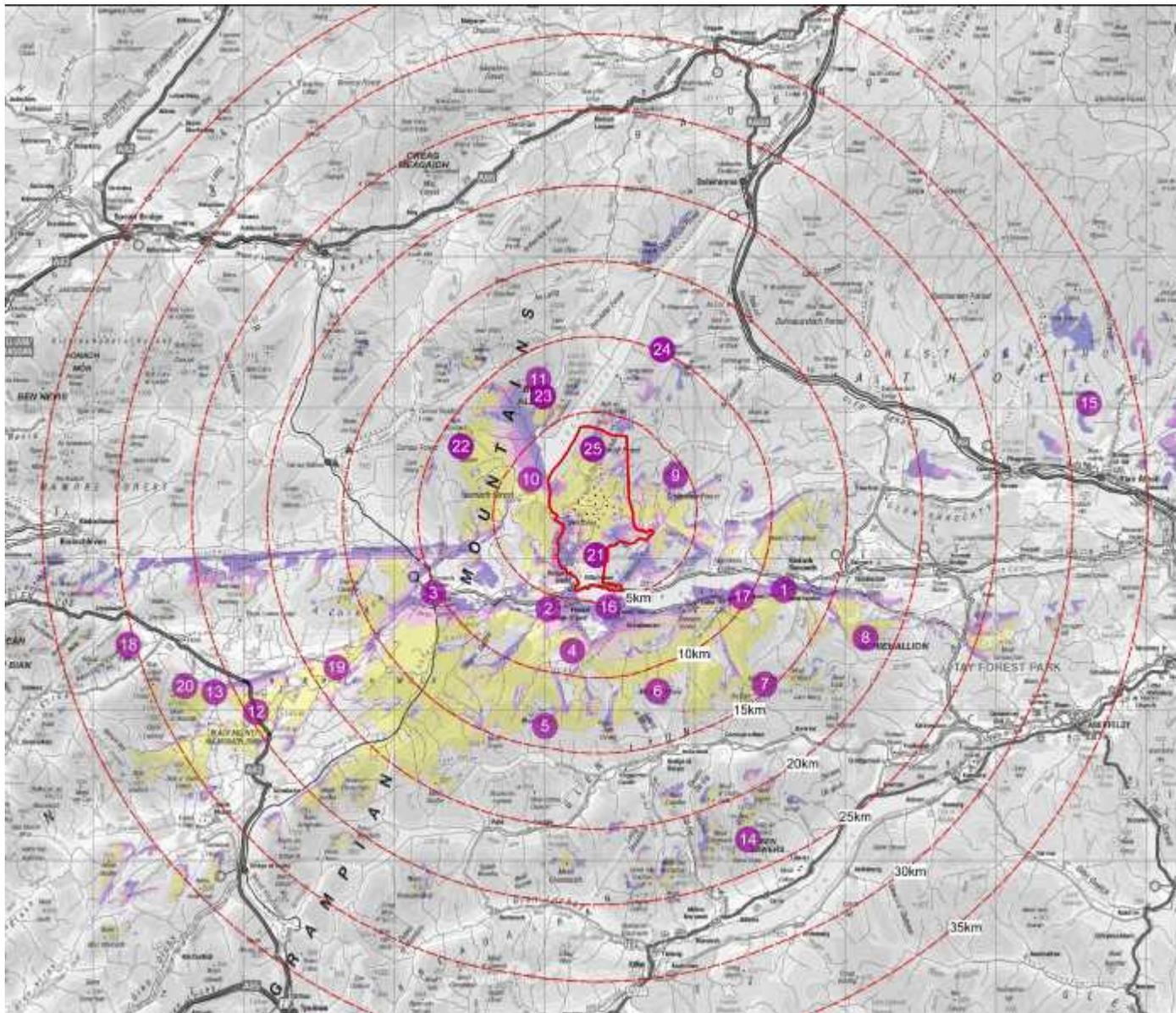
- 1. In the wrong place and very destructive of magnificent landscape quality;**
- 2. intrusive into valuable and long-standing habitats for eagles and rare species;**
- 3. poorly prepared, inconsistent in parts and too loosely specified throughout;**
- 4. logistically and contractually uncertain of implementation; and**
- 5. framed throughout in terms of superseded Ministerial guidance.**

## APPENDIX 1: 'A SITE TOO FAR'

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(Provided as a separate document)

## APPENDIX 2: THE APPLICANT'S VISUALISATIONS

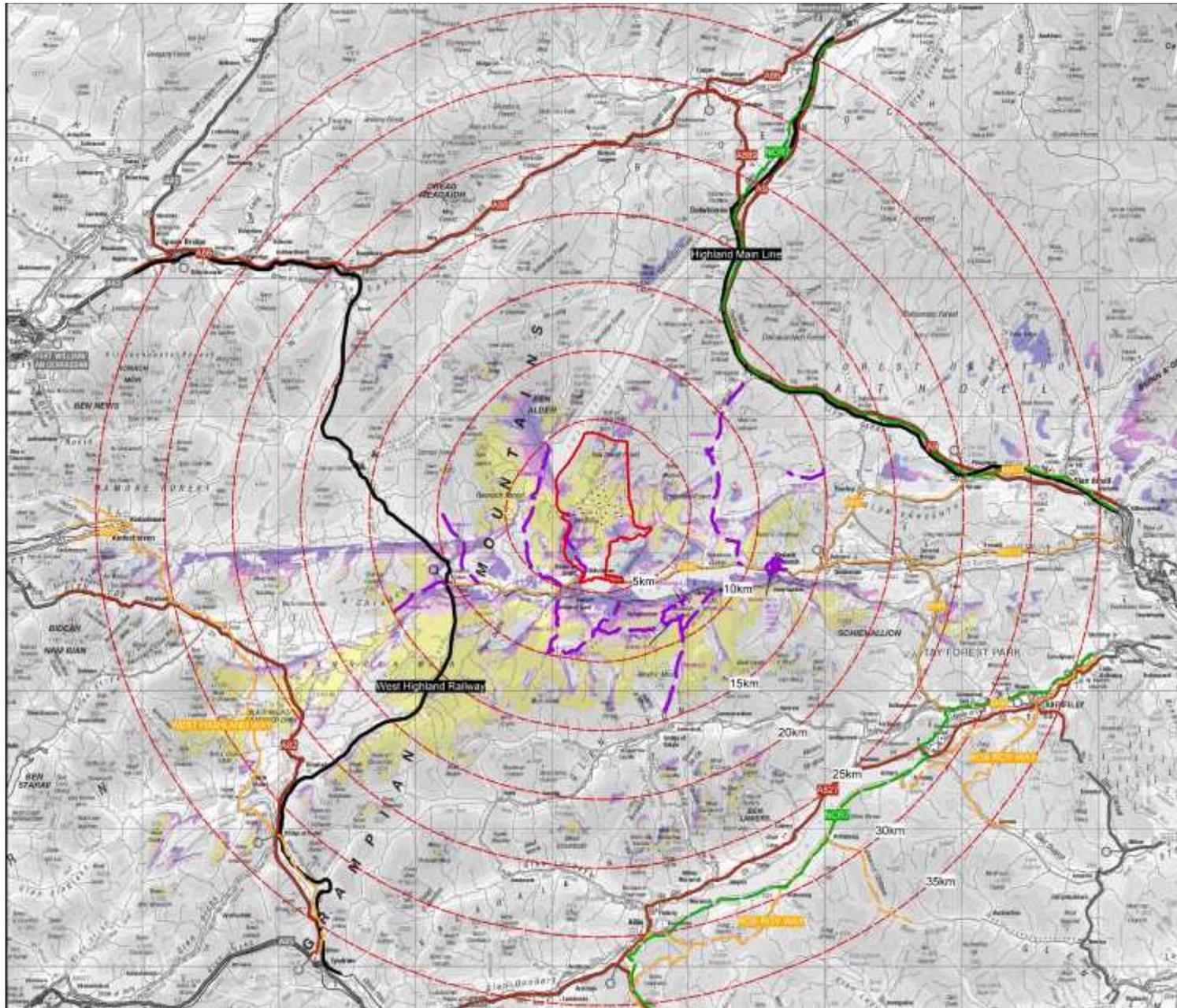


A table showing our listing and summary comments is overpage.

Please note that the only viewpoint on the open westerly aspect of the site which was volunteered by the applicant was EV10 (q.v.) at the level of Loch Erich. The telling viewpoint 22 from Sgor Gaibhre was required by SNH for the second exhibition of the scheme.

The more northerly viewpoint 11 (the trig point on the Ben Alder plateau) is too far back from the plateau edge and too distant to show the real landscape impact on Ben Alder and viewpoint 23 is partly masked by a nearby ridge. A balanced set of visualisations from Ben Alder would have included at least one from the southern approaches – see pages 11 and 12 of our Appendix ‘A Site Too Far’, which also shows (at pages 13-15) the even greater visibility of the proposed site from the popular Corbett Beinn Pharlagain, which directly overlooks its open western side. These are another significant viewpoints which the applicant has chosen not to include.

Viewpoints Shown in Eventus Application of 23 June 2014			
Eventus Viewpoint	Name of Location	OS Grid Ref (NN)	'Keep Rannoch Wild' Summary Comments
EV1	Kinloch Rannoch	65825 57824	Little visibility - low viewpoint and distant (9 tips – 11.870km)
EV10	Loch Ericht (vehicle end)	49090 65232	Major impact on core footpath but partly masked – <i>move south?</i> (12 hubs / 13 tips – 3.497km)
EV11	Ben Alder (trig)	49629 71849	Substantial impact on key munro, but distant and well masked view (7 hubs / 12 tips – 8.031km)
EV12	Loch Ba (A82T)	30844 49864	Major impact on main tourist road and views, but distant (16 hubs / 24 tips – 24.460km)
EV13	West Highland Way	28078 51170	Major impact on key footpath, but distant and masked – <i>south?</i> (12 hubs / 16 tips – 26.243km)
EV14	Ben Lawers	63553 41420	Major impact and important munro, but distant (24 hubs / 24 tips – 22.887km)
EV15	Meall Reamhar	86222 70276	Negligible because very distant. Unimportant hill (1 tip – 31.854km)
EV16	S Loch Rannoch (nr Crossrag)	54260 56796	Negligible visibility - low viewpoint and landform (1 tip – 5.353km)
EV17	S Loch Rannoch (Carie CP)	63167 57476	Little visibility - low viewpoint (5 tips – 5.353km)
EV18	Buchaille Etive Mor (Stob Dearg)	22363 54307	Major impact and important munro, but distant (24 hubs / 24 tips – 30.449km)
EV19	Loch Laidon (SW end)	36180 52814	Substantial impact on wild loch, but distant – <i>why not closer?</i> (15 hubs / 22 tips – 18.374km)
EV2	Bridge of Gaur	50285 56678	Theoretical visibility but masked by trees <i>pro tem</i> (6 hubs / 10 tips – 9.606km)
EV20	Glencoe Ski Centre (top)	26121 51570	Major impact and important tourist viewpoint, but distant (16 hubs / 18 tips – 27.847km)
EV21	Meall Gorm	53450 60245	Major impact and close – <i>why not views from hills south of Ericht?</i> (20 hubs / 24 tips – 1.871km)
EV22	Sgor Gaibhre	44480 67439	Major impact from west ridge (Required by SNH - <i>this is sole view</i> ) (24 hubs / 24 tips – 8.501km)
EV23	Ben Alder (Sron Bealach Beithe)	49937 70752	Major impact from south of trig point – <i>why not south approach?</i> (23 hubs / 24 tips – 6.918km)
EV24	Beinn Uldamain	57859 73827	Significant impact but distant (14 hubs / 18 tips – 10.131km)
EV25	Carn Dearg	53243 67263	Major impact and relatively near (23 hubs / 24 tips – 2.559km)
EV3	Rannoch Station	42644 57723	Little visibility and distant (2 tips – 10.3km)
EV4	Leagag	51888 53905	Substantial impact but distant (23 hubs / 24 tips – 8.383km)
EV5	South of Meall Buidhe	50065 48930	Substantial impact but distant – <i>why furthest view from ridge?</i> (24 hubs / 24 tips - 13.583km)
EV6	Meall a Mhuic	57553 51237	Substantial impact but distant (24 hubs / 24 tips – 11.566km)
EV7	Meall Garbh	64672 51692	Substantial impact but distant (24 hubs / 24 tips – 14.580km)
EV8	Schiehallion	71373 54768	Substantial impact but distant (24 hubs / 24 tips – 18.100km)
EV9	Beinn Mholach	58739 65482	Substantial impact and moderate distance (17 hubs / 20 tips – 4.233km)



Extract from the applicant's Figure 7.23: Principal Visual Receptors shown on ZTV map.

The applicant's mapping shows that:

- Walkers on the West Highland Way would have a distant but unobstructed view of the wind farm for over 4km;
- Passengers and drivers on the A82 Glencoe Road would have a distant but unobstructed view for over 5km;
- Passengers on the West Highland Rail Line would have direct sight of the scheme's open west and south-west aspects for c15km, though mature forestry will screen that until harvesting;
- Walkers on the Rannoch-Alder core path and the popular routes (core paths) from Rannoch to Glen Lyon would have close and full views of the turbines and infrastructure for substantial lengths of paths.

Though older studies and those of visitors to *built* attractions have been used to rebut fears of tourism impacts, it is submitted that the nature of tourism in Rannoch makes such displacement more likely. This would be supported *inter alia* by a recent MCS study.