[redacted]

The Scottish Government
Marine Scotland Licencing Operations Team
Marine Laboratory
PO BOX 101
375 Victoria Road
Aberdeen AB11 9DB

RECEIVED
09 MAY 2012
GH 09/05

Monday, 07 May 2012

Reference Beastrice Offshore Windfarm Application

The application should be rejected due too;

- Major hazard to shipping which will lead to accidents in a marine sensitive area.
- Will upset the natural marine environment.
- Financially unviable after the subsidies are withdrawn.
- The windmills proposed are **unfit** for the severe sea weather conditions in the area, very different from onshore windmills which in time will lead to broken, corroded unsightly hulks left with none accountable to remove them after the company's go bust.
- Loss of fishing grounds and income to local fishermen.

Sincerely

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 21 May 2012 22:35
To: MS LOT Beatrice Representations
Subject: Objection to the proposed Beatrice Offshore Field

Dear Sirs,

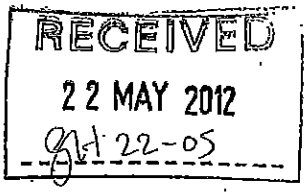
I should like to register my opposition to the Beatrice Offshore Wind Farm. As a former Council Member of the National Federation of Fishmongers, who relied to a great extent on our Scottish Fisheries during my working life, I am concerned at the information that is coming forth on the damage wind farms do to fisheries. The oft quoted expert witnesses that have guaranteed almost reef like conditions are being proved disastrously wrong at the Thanet wind farm and at other European off-shore installations. Whether the disturbance from the piling or the ongoing vibration what is becoming obvious is that the result is virtual desserts with the exception of some large shoals of jelly fish. My view, at this time, is that insufficient research has been done on the effect on coastal fisheries. No longer the industry that it was, fishing still employs a large number within the fleet and more importantly in processing and services in the home port. Until these concerns are adequately addressed, I would say that deployment of these turbines is premature and ill advised. A few tender crew will never compensate for professional fishermen's jobs.

Added to this I also am greatly concerned at the high costs of off-shore wind and whether it is economically viable in the UK without a damaging effect on our manufacturing industries through high energy costs. Whilst this is a general comment, this wind farm will be built in some of the most hostile waters around the UK. As a young man, I started my working life as a trawlerman so I am qualified to make that comment. The cod stocks of the North Sea are just beginning to show good levels of recovery and the food stock that represents may be very important to a growing population. Declining industries can recover and I would consider it a terrible act of vandalism if that recovery was cut short but the positioning of such expensive "follies". We have a marvellous oil and gas industry whose technology, mostly UK born, has tamed the North Sea. However rigs are not wind turbines but multi million pound highly complex vessels requiring continual and complex positioning and management and I am yet to be convinced that we have the technology or the understanding of marine geology within this nacent off shore wind industry to follow where they have lead.

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 07:36
To: MS LOT Beatrice Representations
Subject: Objection to Beatrice



To whom it may concern

I object in the strongest possible terms to the building of between 142 and 277 turbines, depending on turbine size, as part of the Beatrice offshore development- the potential and unforeseen impacts on the environment, in its widest sense, of so many wind turbines on land and in a confined marine area simply cannot be predicted.

The first 5MW demonstration turbine was installed in 2007, giving the developers almost 5 years to determine what turbines will be used in the final proposal. It is simply inexplicable that an application has been submitted without knowing and specifying the number of turbines the developers require to achieve the desired installed capacity and makes a mockery of the consent process.

Sincerely

[redacted]

Kilmarnock

Concern citizen of Scotland

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 09:23
To: MS LOT Beatrice Representations
Subject: Application for Beatrice Windfarm

RECEIVED
22 MAY 2012
GH 22-05

Sirs,

Beatrice Windfarm.

I wish to register my objection to this proposal to construct between 142 and 277 off shore wind turbines.

With so many potential off shore projects in planning it appears that Scotland is in real danger of being almost surrounded by turbines, the cumulative impact of which is a matter of grave concern to many.

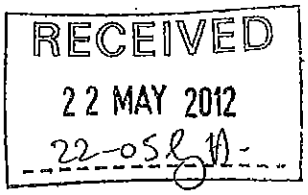
Added to the detrimental visual impact is the very real concern about the environment, both on land and off shore of so many wind farms and I urge you to reconsider this appalling proposal..

[redacted]

28/05/2012

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 10:54
To: MS LOT Beatrice Representations
Subject: Beatrice offshore windfarm development



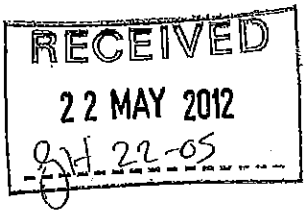
I object to the Beatrice Offshore Windfarm Development.

The first 5MW demonstration turbine was installed in 2007, giving the developers almost 5 years to determine what turbines will be used in the final proposal. It is simply inexplicable that an application has been submitted without knowing and specifying the number of turbines the developers require to achieve the desired installed capacity and makes a mockery of the consent process.

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 11:12
To: MS LOT Beatrice Representations
Subject: Beatrice wind facility planning application



Sir/Madam

I am writing to lodge my strongest possible objection to the recent application made to Marine Scotland by Scottish and Southern Energy for between 142 and 277 turbines as part of the Beatrice offshore development – with an installed capacity of 1GW. The capacity figure is very misleading and gives the impression that the facility will generate 1GW at all times – this is not the case as the capacity factor is likely to be in the low 30% s meaning that the annual production will be a lot less that the capacity factor would suggest.

The two demonstration turbines currently in place can be easily be seen from many parts of the Caithness and East Sutherland coast line. Using the maps provided the visual impact of the proposed turbines requires little imagination. There are other potential impacts of a project this size. It is currently the largest application for an offshore windfarm, almost double the size of Race Bank (620MW).

Other offshore developments in the Moray Firth, currently estimated at a further 1500MW, are in the scoping / early planning stage. The cumulative impact of these developments with increasing number of onshore turbines in Caithness, Sutherland, Moray and Aberdeenshire - all of which border on the Moray Firth - is a serious concern. The potential and unforeseen impacts on the environment, in its widest sense, of so many wind turbines on land and in a confined marine area cannot be predicted.

The first 5MW demonstration turbine was installed in 2007, giving the developers almost 5 years to determine what turbines will be used in the final proposal. It is simply inexplicable that an application has been submitted without knowing and specifying the number of turbines the developers require to achieve the desired installed capacity and makes a mockery of the consent process.

Offshore wind turbines accredited by Ofgen before March 2014 receive 2 x ROCs/MWh. Based on a value of around £40 per ROC, this development will receive a consumer borne subsidy of £84/MWh. With an annual capacity factor of 35% and a 1GW installed capacity, this would provide an annual subsidy of £250 million!!!! This subsidy is a cost added to the ever increasing electricity bills of more and more impoverished consumers!

Yours etc

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 12:12
To: MS LOT Beatrice Representations
Subject: Wind Turbines

Sirs

I object in the strongest possible terms to the development on any scale of the Beatrice Windfarm a described below.

The application made to Marine Scotland by Scottish and Southern Energy is seeking consent for between 142 and 277 turbines, depending on turbine size, as part of the Beatrice offshore development with an installed capacity of 1GW.

I also object to the award of 2ROs per MWh from these machines. This is against the public interest, as a regressive tax.

The whole of the wind energy industry is based upon a chaotically available form of energy over which the producer has no control, and can thus not undertake to supply upon a time and date basis. It is technically ill-considered, and I would allege, transgresses the provisions of the Aarhus Convention. I would appreciate your comments on this point.

I speak as a retired research scientist from the nuclear industry.

Yours faithfully

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 13:42
To: MS LOT Beatrice Representations
Subject: Objection to Wind

The Scottish government seems to be unaware that wind power is intermittent and thus wind turbines need to be 'back-up' by conventional power plants. Most of the major player is wind say that this 'back-up' has to be between 83% and 92% of the name plate (rated) capacity of the proposed wind generation name plate capacity.

Since the current Scottish government has already authorized more wind farms than we have 'back-up' it means that when the wind doesn't blow the lights will go out and when the wind does blow we shall have more electricity than we can use and do not have the cables of sufficient size to send the spare electricity somewhere where it might be used. Thus the wind farm owners will be *paid* to switch the wind turbines *off*.

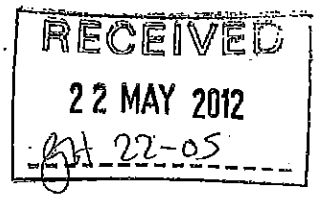
Renewable energy such as offshore wind is already 3 to 5 times the cost of electricity from conventional sources (nuclear coal & gas) so we should NOT approve any more wind power until we increase the capacity for base-load 'back-up'

Thus I object to this proposal and do NOT want it to go ahead.

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 22 May 2012 17:52
To: MS LOT Beatrice Representations
Subject: Beatrice wind farm objection

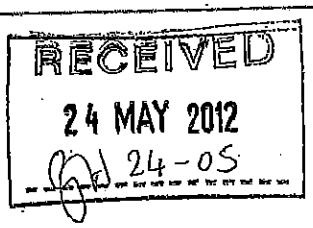


I object to the current appliction by Scottish and Southern Energy to further develop the Beatrice Wind farm. I object on the grounds that the project is not economically viable.

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 23 May 2012 20:02
To: MS LOT Beatrice Representations
Subject: objection



How can this madness be allowed to go on. Millions in fuel debt and poverty and these projects receiving a total subsidy of £250m a year.

Never mind the damage to the sea bed and the blue carbon effect.

Until proper research has been carried out by totally independent scientist and engineers these projects should be stopped

If the effects on the natural envirioment is found to be proven who will be held accountable and responsible.

Common sense must surely be allowed to prevail. The whole Climate Change Scam has never been fully investigated by independent experts and authorities.

The country is going broke and fully trained engineers languish on the unemployment scrap heap. The subsidies should be stopped and redirected to addressing the unemployment situation.

How many full time jobs will be created after the construction? Very Few

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 25 May 2012 17:32
To: MS LOT Beatrice Representations
Subject: Beatrice Windfarm Objection

I write concerning the application made to Marine Scotland by Scottish and Southern Energy to seek consent for between 142 and 277 turbines (depending on turbine size), as part of the Beatrice offshore development with an installed capacity of 1GW.
Please record my objection in principle and my serious concerns regarding the magnitude, the localised effects to the seabed and sea life, safety to shipping, the detrimental extended visual clutter plus the impacts of other possible offshore applications and cumulative harm.

I ask why this application has not been provided high priority for public scrutiny and response. This application should be refused on the grounds expressed above and also in the light of the latest findings as listed below.

1) Leaked Strategy Paper: EU Plans To Phase Out Green Energy Subsidies - Frankfurter Allgemeine Zeitung, 19 May 2012

2) The Worldwide Crash Of Green Energy Companies - The Hockey Schtick, 16 May 2012

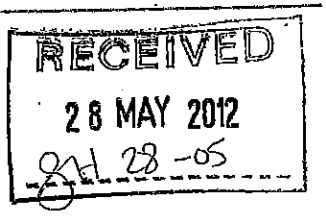
I would appreciate your acknowledgement of this e-mail and my objections as stated.

yours sincerely

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 25 May 2012 18:48
To: MS LOT Beatrice Representations
Subject: Beatrice off-shore wind turbine



Dear Sirs,

I am apalled by and wholly oppose the proposed scale of the Beatrice off shore wind farm and do not believe that appropriate scientific studies on the potential for extreme damage to the marine environment (in particular marine mammals and their hearing) have been carried out. Off-shore nor on-shore wind is not the answer to Scotland's renewable programme and is prohibitively costly both in terms of damage to our environment, the fact that it cannot exist without outrageous subsidies going to foreign companies and ensuring fuel poverty for many. Wind is neither clean nor green. This madness must stop now for our children's sake.

Sincerely

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 26 May 2012 00:34
To: MS LOT Beatrice Representations
Subject: wind farm objection

Dear Sir, I object to this development on the grounds of cost, the loss of sea views from the shore, the effect upon seabirds and the underwater threat to the marine life from the engineering works and the sub-aquatic sound waves created by the the turbines when working, yours sincerely [redacted]

Holland G (Gayle)

From: [redacted]
Sent: 27 May 2012 00:58
To: MS LOT Beatrice Representations
Subject: Objection to the proposed development

Dear Sir/Madam,

I object to the proposed development known as Beatrice. Residents of Scotland are already under siege from onshore developments that have significant, unmitigated, health impacts for those within proximity of the developments (up to 10 km based on current medical research). It is intolerable that our seascape should now suffer the same desecration as our landscapes. Review of the Interactive Marine Planning Map indicates that the East Coast of Scotland will have almost continuous offshore wind developments from the border through to just short of the North Coast with only minor breaks in coverage. The West Coast evidences only marginally less development indicating that with the exception of the Western Isles and the East Coast of Orkney, Scotland will be entirely surrounded by wind turbines!

In particular this development is inappropriate because of the potential impact on the RAMSARs, Marine SPAs and Marine SACs in the vicinity; or, more specifically, on the fish (such as salmon, trout, sandeel, herring and sprats), mammals, other marine wildlife including seabirds and migratory birds such as geese, and aquaculture associated with them.

Whilst skeins of geese are known to be capable of navigating individual turbines, this does not appear to be the case where significant cumulative impact and turbine density exists and thus a development on this scale will undoubtedly have severe welfare consequences for species in the vicinity of the proposed development.

Of particular concern is the Special Area of Conservation at Moray Firth in relation to the Bottlenose Dolphins (Tursiops truncates). Construction and other noise arising from the proposal is likely to extend beyond the windfarm footprint and may overlap with dolphin use of the surrounding environment. Boat movements, cable-laying and other construction activity may give rise to disturbance. There may also be impacts to the prey species of dolphin – either from the placement of infrastructure or due to noise. The conservation objectives for bottlenose dolphin are:

(i) to avoid deterioration of the habitats of bottlenose dolphin or
(ii) significant disturbance to bottlenose dolphin, thus ensuring that the integrity of the Moray Firth SAC is maintained and that the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features.

And to ensure for bottlenose dolphin that the following are established then maintained in the long term:

(iii) Population of bottlenose dolphin as a viable component of the site.
(iv) Distribution of bottlenose dolphin within site.
(v) Distribution and extent of habitats supporting bottlenose dolphin.
(vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.

The proposal is likely to have significant effects on bottlenose dolphins and their prey species.

There will also be an adverse impact on the tourism associated with the dolphin watching, thus adversely impacting both the individual businesses who currently depend upon the income and, likely, the associated onshore local economy in terms of tourist number decreases due to the industrialization of a previously idyllic rural land and seascape. This has the potential to seriously and detrimentally impact the economy of the region. The February 2012 Farmers Weekly poll (following comments by Countryside Presenter Matt Baker) concluded that 87.12% of voters (>2000) believed wind turbines to be a threat to the British countryside compared with <300 who did not. The Scotsman on Sunday Poll (22 April 2012) evidenced 68% of voters thought that wind farms were a blot on the Scottish landscape. Whilst these polls relate to onshore developments, the fact that this proposed development will be visible from "onshore" indicates that the results are none

the less relevant to this proposal. The Trump Organisation also considers that an offshore windfarm will significantly and detrimentally affect the amenity of tourists and thus negatively impact the Menie Estate development. This is further supported by objectors to many other local proposed turbine developments from all over the world indicating that tourists would be less likely to visit Scotland if the industrialisation of the landscape/seascape is allowed to continue and proliferate.

It is unclear the extent to which the fishing industry will be impacted by the proposed development, both in terms of exclusion zones and habitat changes adversely affecting stocks in the direct vicinity and at a wider range both inshore and for species that migrate across the area of the development.

Whilst claims are made in relation to the reduction in both CO2 and SO2 as a result of this development, it is not specified in the available documentation whether lifecycle carbon accounting rules have been applied, or if these claimed savings relate exclusively to the operational phase of the development and thus exclude between 80% and 95% of the environmental harm and natural capital depletion associated with everything from the rare earth mining, through manufacture (of turbines and base), construction and decommissioning/recycling. There are also no commitments that the turbines will deliver the estimated power during their lifecycle and, as wind power is notoriously unreliable, and therefore requires traditional backup facilities, there is also a knock on effect for end users who are essentially paying twice for generating capacity. The Telegraph Poll (21 May 2012) evidenced 92% (in excess of 4400 votes) of voters believed that if wind farms are not cost effective, households should not have to make up the shortfall. Continuing to promote a technology that has repeatedly failed in multiple locations around the world is folly beyond belief, and raises serious questions over the governance of the elected representatives. It also undermines trust in the elected representatives, processes, policies and controls in place to protect the electorate from inappropriate development and poor governance.

Given that the recent UN Economic Commission for Europe finding that the EU is in breach of the Aarhus Convention in relation to its renewable energy programme which is currently therefore proceeding "without proper authority" leaving the way open for citizens to seek that damages be made good under long established legal precedents, it can surely only be a matter of time before those in fuel poverty who are subsidising a technology that is not only unproven, but has been repeatedly demonstrated to be counterproductive and which the country cannot afford, will seek redress through the courts. Add to this the claims from those whose tourist based or fisheries related businesses are impacted, and Scotland is storing up the next "financial crisis" which is likely to see the country in the same situation as Greece currently finds itself.

It is time for those in positions of governance to take off the blinkers, see through the propaganda, and start investing in a truly renewable future, where the technology is based on proven science and lifecycle carbon accounting principles rather than spurious claims that do not withstand even the most cursory of reviews.

Yours faithfully,

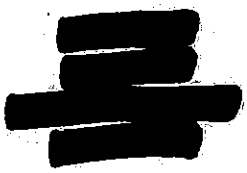
[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 30 May 2012 09:44
To: MS LOT Beatrice Representations
Subject: Beatrice Wind Farm - objection
Attachments: Beatrice objection.doc

Please find attached my objection to the Beatrice Wind Farm proposal.

[redacted]



29 May 2012

Marine Scotland Licensing Operations Team
Marine Laboratory
PO Box 101
375 Victoria Road
Aberdeen
AB11 9DB

Dear Sir/Madam

Beatrice Offshore Windfarm: Outer Moray Firth

I am writing to place on record my objection to the above application for the following reasons.

It has become a tiresome feature of major applications for windfarms that they underestimate the environmental impacts of the industrialisation resulting from the construction of wind turbines onshore and this offshore scheme follows the same disingenuous pattern.

It is inconceivable that the developer cannot more accurately predict the number or size of turbines to be installed after 5 years of scoping but yet can categorically conclude that the impacts on seabed communities and a wide range of marine life will be largely minimal. This is an affront to commonsense as a thorough assessment of impacts would be dependent on the spread, number and size of turbines and the cumulative impact with other simultaneously occurring sea-based installations.

What is obvious is the presupposition that wind farm schemes trump all other considerations including those of long established industries like fishing and tourism, habitat and wildlife protection, designated landscapes and local communities and one wonders why an application process is necessary at all except for public appeasement. The mistake is to think that planners and the public are so gullible.

It does not take a marine expert to visualise the potential negative impacts to seabed communities, marine mammals, fish, shellfish and sea birds resulting from the disturbance to habitat through the scouring, construction noise caused by pile driving and cable laying activities, future maintenance and operation. These are not minor concerns and I believe that, in experimental schemes such as this where uncertainties still exist, the safeguards should be even more stringent. I fear that the reverse is true.

Of course, it is not only the marine environment that will suffer from such schemes but the impacts will be felt onshore in numerous ways, of which the impact on local communities is the greatest. The coastal area, off which the wind farm is to be constructed, will display a web of onshore turbines when all the schemes currently at the Consents Unit, at appeal or in the local planning pipeline are built. There is little confidence that the cumulative impact across both land and sea has been adequately assessed and every confidence that the impact will be significant and adverse. As well, bringing the intermittent electricity onshore and connecting to the grid will further impact adversely on the local landscape and residential amenity in the nearby coastal communities.

In my opinion the economic case has not been made. Whilst the Beatrice wind farm may produce work for a number of UK or regional supply line companies, as well as European manufacturing contractors and some local balance of plant work and this will bring certain economic advantages to the region and locality, I would contend that the balance sheet calculations are one sided. Many of the jobs are not new jobs, the manufacturing jobs will benefit the European market, many of the jobs will simply be displacements from other work and some of the jobs will be temporary. Opportunities for investment in other perhaps more innovative technologies will be lost as wind farms eat up scarce resources.

As well, the loss of fishing grounds and the legacy of habitat destruction from construction and cable laying activities does not seem to have been costed in terms of losses to the fishing industry.

According to the applicant, the losses to tourism and recreation are only considered to be minor, however, the assessment relies on the Moffat survey which is now significantly out-of-date and largely irrelevant and was commissioned when the number of installed turbines was low. As at 30 April 2012 there were only 1575 onshore turbines operational in Scotland so the adverse consequences for tourism could escalate significantly as the turbines under construction, consented but not yet built, awaiting Government determination, at appeal and proceeding through the local authority planning pipeline are brought into operation.

It is my opinion that the costs to tourism are grossly underestimated being as they are based on limited and out-dated research and an under-assessment of the cumulative impact when onshore wind turbines proceeding through the system are operational. The north eastern coastline of Scotland looking to the Beatrice wind farm is predicted to host numerous turbines and, in my opinion, the negative consequences for coastal communities who rely on tourism will be severely affected.

But that is not all, the costs to consumers from the inflated subsidies continuing over 25 years will adversely impact on purchasing power at the local, regional and UK levels and will have a disproportionate negative impact on the poorest households and particularly the poorest rural households who already find themselves in fuel poverty and who are already suffering the adverse consequences of rampant onshore development.

Clearly there will be some carbon dioxide savings but the calculations do not take into account the need for conventional backup power supplies to balance the wind regime when there is no wind nor do they factor in the considerable conventional fuel costs associated with the maintenance regime. Overall the calculations are not fully explicated and this weakens the case for further offshore (and onshore) wind energy.

As far as I am concerned the case for the Beatrice wind farm is not made and I would be grateful if you would take into account the comments I have made in objecting to the proposal.

Yours faithfully

[redacted]

Holland G (Gayle)

From: [redacted]
Sent: 30 May 2012 18:33
To: MS LOT Beatrice Representations
Subject: Beatrice Offshore Wind Farm Development

Dear Sir/Madam

I strongly **object** to the proposed Beatrice offshore wind farm development, of 142-277 giant turbines. Developers have had five years since the demonstration turbine was installed in 2007, to determine the number of turbines required. It is simply unacceptable that this application has been submitted without knowing or specifying the number of turbines.
The Moray Firth is a stunning environment and to have such a huge offshore development installed there (even 142 turbines is too large) is unacceptable. The sheer greed being shown by developers, to grab as much as possible in terms of ROC subsidies, etc. is also unacceptable. Offshore wind is the most expensive renewable energy option and none of these wind farms would be built without such generous subsidies, for guaranteed periods of time - they just don't make sound business sense.

yours sincerely,

[redacted]

Dalzell K (Katie)

From: [redacted]
Sent: 11 June 2012 15:04
To: MS LOT Beatrice Representations
Subject: Objection to Beatrice wind farm in Moray Firth

I would like to object strongly against the planned huge wind farm in the bonny Moray Firth.

The plans are unbelievable, and would endanger highly
a) Tourism in the North of Scotland
b) the wildlife in the Firth, especially the beautiful dolphins, which are a much wanted attraction for tourists and residents alike.

The relatively small benefit of this wind farm is in no proportion to the destructions and costs it would cause.

I hope that common sense will prevail.

Yours sincerely

[redacted]

Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 18:35
To: MS LOT Beatrice Representations
Subject: Beatrice Windfarm Proposal
Attachments: Beatrice - nbft.docx

Dear Sir/Madam

Please find a response to the Beatrice Windfarm proposal on behalf of the Ness & Beauly Fisheries Trust.

Regards

[redacted]

RECEIVED
08 JUN 2012

[redacted]

Response to the marine licence application for the Beatrice Offshore Windfarm project

8th June 2012

Dear Sir/Madam

The Ness & Beauly Fisheries Trust welcomes the opportunity to respond to the application seeking consent to develop the Beatrice Offshore Windfarm. N&BFT consider that the proposals represent a considerable risk to the salmon and sea trout populations in the Ness and Beauly districts and as such endorse the representations made by the Moray and Pentland Firths Salmon Protection Group, Moray Firth Sea Trout Project and Association of Salmon Fishery Boards.

Yours Faithfully

[redacted]

[redacted]

RECEIVED
08 JUN 2012

RECEIVED
11 JUN 2012

Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 17:57
To: MS LOT Beatrice Representations
Subject: Consent Application

Dear Sir

This is to register my objection to the application for consent to construct the proposed Beatrice Offshore Windfarm.

My reasons for the objection will follow.

Yours sincerely

[redacted]

Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 16:28
To: MS LOT Beatrice Representations
Subject: Application to build 277 turbines in the Moray Firth

Dear Sir,

My wife and I would like to register a formal objection the application to install the proposed wind farm (up to 277 x 198.4 metre turbines). That is 2 separate objections!

The main reasons being that 277 x 645 foot turbines would

1) Be an unacceptable visual intrusion, visible from over 50 miles away in all directions.
2) Together with all the land based turbines both north and south of the Beatrice site, constitute unaccepable cumulative impact.
3) Constitute a major navigation hazard.
4) Cause untold environmental damage. There has been insufficient research into the sub-sea damage potential, both geologically as well as to marine life.

Yours faithfully

[redacted]

p.s. Please acknowledge receipt of these objections

Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 15:03
To: MS LOT Beatrice Representations
Subject: Proposed Beatrice Offshore Windfarm

Dear Sirs

I wish to lodge an objection to the current Planning Application in respect of the proposed

"Beatrice Offshore Windfarm and Offshore transmission Works. Application For Marine Licences and Section 36 and 36A Consents". (Application dated 23rd April 2012).

Reason for Objection.

Scottish Natural Heritage (SNH) recommend a seaward outer limit of visual significance of 35 km based on a turbine height of 150 m.

This application, if consented, will have up to 277 wind turbine generators with a maximum height to blade tip of up to 198.4 m and will be sited at 13.5 km from the Caithness shoreline.

The Design Proposals as set out in the Application are therefore contrary to the SNH recommendations.

I would confirm my details as follows.

[redacted]

Date objection lodged. 8th June 2012.

Please confirm receipt.

Yours faithfully

[redacted]

Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 10:30
To: MS LOT Beatrice Representations
Cc: [redacted]
Subject: Proposed Beatrice Off Shore Wind Farm - Welbeck Estates

Holding Objection

Good morning,
We act on behalf of [redacted], owners and managers of the [redacted].
On behalf of our clients we wish to lodge a holding objection in respect of the above proposal. The principal concern of our clients relate to the potential impact on their salmon fishing interests whilst there are secondary concerns in relation to visual impact and policy.
However, the documentation associated with the application is simply too large to absorb and respond to within a limited statutory consultation period. In addition, both the application ES, but especially the Scottish Government's own draft SEA Environmental Report for its own EGPS (the consultation for which has recently closed) clearly acknowledges the considerable information gaps and uncertainties not just in relation to the environmental effects of off shore wind farms but also in respect of the basic baseline information that will inform the environmental assessments.
Therefore, much more detailed information is needed, in a form that can be properly discussed with affected interests, before any detailed objection can be made and before there is any possibility of considering applications such as this for determination.
[redacted] would welcome direct dialogue with the applicants and their advisors.
In the meantime can you please acknowledge receipt of this holding objection.
Regards,

[redacted]

RECEIVED
08 JUN 2012

[redacted]

Dalzell K (Katie)

From: [redacted]
Sent: 06 June 2012 13:35
To: MS LOT Beatrice Representations
Subject: Turbines

Dear Sir/Madam,

I am writing to OBJECT to the planning application for 142-277 turbines to be known as Beatrice off-shore wind farm.

I object on the grounds that this will have a permanent effect on the marine life currently found in this area; including dolphins, whales and sharks.

These creatures all communicate through ultra-sonic waves.

Ultra-sonic waves are also give-off by turbines, these will scare these wonderful, protected creatures away.

The release of Blue Carbon into the atmosphere,when the seabed is disturbed, must also be taken into account, as surely one of the ideas behind the development is to save CO2, not produce it.

I would also like to say that under the Aarhus Convention, the consenting Authority, must produce , for public scrutiny, figures showing predicted CO2 saving, that would be made should the project go ahead.

I have not seen such figures.

Many thanks
[redacted]

Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 18:21
To: MS LOT Beatrice Representations
Subject: Beatrice Windfarm Proposals
Attachments: Beatrice Response.docx

Dear Sir/Madam

Please find attached representations regarding the Beatrice Windfarm application collated by the [redacted] on behalf of the [redacted]

Regards

[redacted]

[redacted]

[redacted]

Response to the marine licence application for the Beatrice Offshore Windfarm project

8th June 2012

Dear Sir/Madam

Introduction

The [redacted] welcomes the opportunity to comment on the proposed development of the Beatrice Offshore Wind Farm Project. For your information, [redacted] is an informal group made up of those concerned with the welfare of salmon and sea trout in the Moray and Pentland Firth areas and was initiated as a result of growing concerns at the potential impact of offshore renewable energy. The initial meeting of the [redacted] included representatives from [redacted] and with additional input from the [redacted] wishes it to be known that it recognises the importance of the development of renewable energy sources provided this is not achieved at the expense of ecologically, economically and culturally important wild fish stocks. It is likely that, along with the commercial sea fishing sector, the wild salmon and sea trout interest group is the largest in terms of economic benefit and employment that is potentially at risk due to the proposed development. [redacted] also wish to state that it fully endorses the representations made by the [redacted] and [redacted] relation to this licence application.

General Comments

The application contains limited information regarding the type of structures likely to be deployed if consent is granted and in turn the methodology likely to adopted during construction. This renders a proper assessment of the risks likely to be posed by the scheme to diadromous fish extremely difficult.

It is clear from the Environmental Statement (ES) provided in support of the application that the initial scoping response received from Marine Scotland Science in respect of diadromous fish

[redacted] [redacted]

has not been adhered to. In particular, the need to produce detailed information in respect of the usage of the proposed development area by diadromous species or, alternatively, develop an appropriate monitoring strategy receives scant attention. As an alternative the ES adopts the methodology of assuming that the fish are present within the proposed development site. This would be an appropriate methodology if the risks posed to migratory fish species such as salmon and sea trout as well as other important diadromous fish such as eels and lamprey, were well understood and readily quantifiable. It is clear from research commissioned by SNH[1], particularly in respect of underwater noise resulting from the construction phase of the operation and the creation of electromagnetic fields resulting from the cabling array, that this is far from being the case. This is of particular concern given that a number of rivers within the area covered by the [redacted] are Special Areas of Conservation for Atlantic salmon, pearl mussels and sea lamprey. Given the paucity of information in the ES with regards to the usage of the proposed development site by salmon and sea trout, [redacted] have no option but to assume that the area involved is the key migration route for both adult salmon returning to our rivers and salmon smolts migrating to the main feeding grounds as well as the key feeding ground for our sea trout populations. Indeed, a precautionary approach dictates that the application should be considered with the assumption that **all** salmon and sea trout entering or leaving the rivers within the [redacted] utilise the proposed development area.

Given the inherent uncertainties regarding the potential impacts of the proposed development and the paucity of information regarding the utilisation of the proposed development area by diadromous fish species it is particularly concerning that potential mitigation measures such as the avoidance of piling operations within key migration periods has apparently been ignored.

Specific Concerns

Chapter 11 of the ES outlines a number of potential direct and indirect effects of the proposal to fish and shellfish ecology. Where [redacted] have specific concerns with the assessments presented in the ES, those concerns are outlined below.

Increased Suspended Sediment Concentrations

[redacted] questions the use of the parameters to ascertain the effects of increased suspended sediment concentrations as outlined in Table 11.12 (page 11-20). The parameters are identified as those reported by Birtwell (1999) but examination of the report in question suggests that the research itself was conducted in fresh water and not the marine environment. As such we question the validity of directly transposing research findings based in the freshwater environment to the marine environment. Paragraph 64 includes the sentence *In the case of migratory species, assuming fish are migrating through the site, increased SSC would result in*

[1] Gill, A.B. & Bartlett, M. (2010). Literature review on the potential effects of electromagnetic fields and subsea noise from marine renewable energy developments on Atlantic salmon, sea trout and European eel. *Scottish Natural Heritage Commissioned Report No.401*

[redacted]

[redacted]

localised disturbance to migration. The ES appears to assume that delays in migration, forced movement from preferred migration pathways, disorientation, potential increases in stress etc as a result of this localised disturbance do not influence ultimate survival and fitness rates particularly as an individual fish may experience such disturbance at several locations within the development area thus leading to cumulative effects. The primary literature contains numerous examples of increased predation risk of salmonids due to various stressors in both the freshwater (e.g. Mesa[2]) and marine environments (e.g. Handeland *et al.*[3]) Given the close proximity of the proposed development to the coastline (13.5km at its closest point) and therefore the mouths of rivers and burns coupled with the speed at which smolts are known to travel in the marine environment (e.g. Lacroix *et al.*[4]) there is also the potential for smolts already suffering markedly reduced anti-predator responses due to osmotic stress to experience further increased stress levels, disorientation with concomitant implications in respect of mortality.

Given the risks associated with the increased sediment concentrations it is suggested that sensitive operations should be avoided during the annual smolt migration period. This would have the additional benefit of avoiding the migration period of returning early-running adult salmon which themselves have high economic and ecological value.

Electromagnetic Fields

The conclusions of the SNH commissioned review regarding information available in respect of electromagnetic fields and noise resulting from offshore renewable energy developments have previously been referenced in this response. We understand that research to better understand the responses of salmonid fish and eels to electromagnetic fields by Marine Scotland Science is ongoing. Given the paucity of information currently available it not possible to form an informed view as to whether the proposed mitigation is adequate particularly in respect of the depth of burial that will be ultimately required to fully mitigate for any potential adverse effects. It is suggested that the results of peer-reviewed science should dictate the depths to which cables are buried rather than a depth be chosen by the developer on an apparently arbitrary basis. Furthermore, the intention of the developer to bury or shield the cables *where feasible* is clearly unacceptable. No cables should be left unburied if any diadromous fish species is experimentally shown to exhibit any response to electromagnetic fields.

We also note that the statement (P11-38 paragraphs 131 and 132) *Salmon and sea trout transiting the area of the Wind Farm will for the most not be exposed to the strongest EMFs as they normally swim in the upper metres of the water column during migration (water depths in the Wind Farm range from 38 to 68 m)* appears to give the impression that the proposed development site will be used almost exclusively as a migration pathway. This statement

[2] Mesa, M.G. 1994. Effects of multiple acute stressors on the predator avoidance ability of juvenile Chinook salmon. *Transactions of the American Fisheries Society.* 123(5) 786-793.

[3] Handeland, S.O., Jarvi, T, Ferno, A & Stefansson, S.O. 1996. Osmotic stress, antipredatory behaviour and mortality of Atlantic salmon (*Salmo salar*) smolts. *Canadian Journal of Fisheries and Aquatic Science.* 53 (12) 2673-2680.

[4] Lacroix,G.L., Knox, D., & Stokesbury, M.J. 2005. Survival and behaviour of post-smolt Atlantic salmonin coastal habitat with extreme tides. *Journal of Fish Biology.* 66 485-498.

[redacted] [redacted]

appears to suggest that migration and feeding are mutually exclusive activities for salmon, a suggestion that is contradicted on page 10 of the 16B Annex of the ES which states: *Malcolm et al (2010) concluded based on research undertaken to date (Jakupsstovu, 1986; Holm et al, 2005; Starlaugsson, 1995) that in general terms salmon spend most of the time close to the surface although dives to greater depths of up to 280m have often been observed. Dives do not appear restricted to offshore areas, persisting late into the migration on the return to home waters. Early studies (Jakupsstovu, 1986) suggest an association between diving and feeding.* We also believe the ES underplays the potential of the development area as a sea trout feeding ground, particularly if the area supports a sandeel population and/or is an important area for juvenile herring. Sea trout are also apparently more likely to be benthic feeders than salmon as witnessed on page 15 of Annex 16B it is stated that: *In addition, Pemberton (1976b) suggested a diel feeding pattern, with bottom feeding being greatest during the day and mid-water and surface feeding increasing between sunset and sunrise.*

Underwater Noise

The ES highlights that a considerable area of potential migratory routes and feeding grounds for salmon and sea trout within the Moray Firth will potentially be impacted principally by the piling operations. Again we draw attention to the lack of detailed information of the effects of underwater sound on salmonid behaviour as previously referenced in the SNH commissioned review in respect of electromagnetic fields and noise. Furthermore, the uncertainty regarding the effects of piling noise is intensified due to the assertion in Annex 7A page 10-14 of the modelling exercise that: *Due to the current lack of information on potential lethal and physical injury effects from impact piling, this study has used the data from blast exposures to estimate impact zones... There is, therefore, a level of uncertainty as to whether a blast wave criterion can be directly applied to a transient waveform arising from an impact piling operation.* We concur with the assertion on 10-17 when considering relatively low levels of noise: *The significance of the effect requires an understanding of its consequences. For instance, avoidance may be significant if it impedes the migration of a species. However, in other cases the movement of species from one area to another may be of no consequence*. We contend that the ES assumes that the displacement and the adoption of avoidance behaviour by individual or aggregations of salmon and sea trout from their original locations as a result of underwater noise has no implications in respect of fitness or survival. Given that the marine ecology of salmon and sea trout are so poorly understood we suggest that a precautionary approach would dictate that it should be assumed that potential alterations in behaviour **will** negatively impinge on survival and fitness of the fish in question and as such piling operations should not be undertaken in periods when juvenile salmon and sea trout are migrating and when populations of adult salmon believed to be numerically depressed are likely to be transiting the area.

Loss of Habitat and Potential Damage to Prey Species

[redacted] believe that there is considerable potential for reduced abundance in key prey species such as sandeels and juvenile herring which are likely to form an important component of the diet of juvenile salmon and sea trout if the proposals are granted a licence. The assertion that *despite a lack of current data on the distribution of sand eels within the site and the wider area*

[redacted]

[redacted]

to the spatial scale required for this assessment, the effect of habitat loss is assessed to be negligible and probable does not instil confidence.

Creation of New Habitat

We contend that the introduction of hard substrate as a result of the development accompanied by the presence of the turbine towers has the potential to locally increase the abundance of certain species and therefore act as predator aggregation locations for migrating juvenile salmon and feeding sea trout. Of particular concern would be aggregations of gadoids such as cod which are known to be predators of Atlantic salmon (e.g. Hvidsten and Mokkelgjerd[5])

Concluding Remarks

Given the lack of information in respect of the degree of utilisation of the proposed development site by salmon and sea trout, the inherently uncertain nature of the assessment of the risks posed by factors such as the creation of electromagnetic fields and the lack of appropriate mitigation outlined by the developer the [redacted] wishes to formally register its objection to the proposals.

Yours Faithfully,

[redacted]

[redacted]

[5] Hvidsten, N.A. & Mokkelgjerd, D.I. 1987. Predation on salmon smolts, *Salmo salar* L., in the estuary of the River Surna, Norway. *Journal of Fish Biology*. 30 273-280.

From: [redacted]
To: MS LOT Beatrice Representations;
Date: 29 July 2012 17:07:16

Dear Sir / Madam,

I would like to formally object to the proposed Beatrice development in the Moray Firth. The size of the scheme is horrendous. Its siting, in an environmentally sensitive area - home to dolphins and a wide array of sea life - disregards the extremely important biodiversity of the area. Wind as a form of 'energy' is hugely costly, unreliable, and is a visual, aural, and environmentally polluting form of electricity production.

I strongly encourage the government to reject this proposal and make serious considerations about the future of Scotland's landscapes and seascapes. I request the government to consider how much it it is willing to destroy these important and necessary aspects of this country before it realizes the folly of its ways.

[redacted]

From: [redacted]
To: MS LOT Beatrice Representations;
Subject: Beatrict Off Shore Wind farm - objection to the proposal
Date: 04 August 2012 00:15:30

From [redacted]

Re Planning application for the Beatrice Offshore Wind Farm, Moray Firth.
(I spent an hour on line searching via Scottish Government website and Google search to find an application number or planning reference number. I couldn't find one.)

I strongly object to this development.

There are other developments in the Moray Firth in the development and application phase. All over the North East of Scotland on shore turbines have been developed by private investors. The Moray Firth, its coast, and the bordering counties of Caithness, Sutherland, Moray and Aberdeenshire have already been over developed and the land industrialised with wind turbines. This has and will have impacts upon the environment for decades to come, causing unknown and unpredicted damage over an extremely wide land and marine area of hundreds of square miles.

Beatrice clearly hasn't been thought through by politicians who have taken it upon themselves to act upon informal ideas without formal assessment of the effect, nor proven contribution to the aims of the renewables policy. Further this focus upon wind energy has given £5 billion pounds already to developers, sending money out of the country. All this to force a programme through without due consideration or transparent democratic decision making.

This lack of determined and proven results is also evident in the Beatrice application -
The first 5MW demonstration turbine was installed in 2007, giving the developers almost 5 years to determine what turbines will be used in the final proposal. It is simply inexplicable that an application has been submitted without knowing and specifying the number of turbines the developers require to achieve the desired installed capacity. It makes a mockery of the consent process.

The two demonstration turbines currently in place can easily be seen from many parts of the Caithness and East Sutherland coast line. Using the maps the visual impact of the proposed turbines requires little imagination – it will be seen all over the Moray Firth, the coasts, and inland. There are other potential impacts of a project this size. It is currently the largest application for an offshore windfarm, almost

double the size of Race Bank (620MW).

The industry is being given state authorization to take away the landscape of NE Scotland by industrialisation. Government seems to be in denial about the effect of this upon people, wildlife, marine habitation, our heritage, our future. Disturbance of marine habitation is an act of vandalism. Many species will suffer, including the homes of dolphin and porpoises – and consequently many of these native creatures will die. The Beatrice documentation has omitted the issue of the Moray Firth Dolphins.

The sea bed is not like a field that can be ploughed and will grow again next year. Such disturbance as this massive off shore large wind turbine build will completely destroy hundreds of square miles of the sea bed. The sea bed is a shifting living unpredictable environment. It is difficult to access. This idea is ill considered – the approach is to plan a building project. The reality is that land, sea, and seabed habitations are actually alive.

Then infrastructure is required to the coast of Moray, and in land to Keith.

The lives of people all along the coast and inland as well seem to have been left out of the governments and developers idealized picture.

This is turbine development at whatever the cost.

You should examine your motives.

No one voted for this.

The public surveys on Beatrice were arbitrary yet used as proof of consent. They aren't proof – a moments question on a street or at an exhibition isn't proof. They don't ask real pertinent questions of people who live next to wind turbines.

When you go on Google to find anything out the information is not easily accessible, one can't even find a reference number to go directly to the Beatrice documents. The Aarhus convention requires that information should be accessible, and transparent and easy to understand. This is not the case. A small number of politicians and private developers have worked together to make all this happen but the people of Scotland have played no part in actually deciding anything about wind energy. It is expensive, subsidy comes from our bills and our taxes.

Then of course the radar. Beatrice developers and politicians trying to talk their way around national defence. It is a very serious matter.

This world is not an ideal place – a nice office where people can talk about the world and make decisions about policy. One day parliament won't be in an architectural environment in a big city. Technology will move on and politicians will work in their communities

and be required to accept public participation in decision making.

This whole wind turbine industry on shore and off shore has been imposed upon rural communities, coastal towns, and people with no third party rights. Imposed upon wildlife – our environment.

I request that you refuse this application on the grounds of

- Cumulative effect
- Pollution of the environment
- Destruction of wildlife
- Disturbance of communities
- Human rights to live in peace in one's home
- Inefficiency of wind turbine energy
- Spending of public subsidy
- Damaging the landscape
- Lack of transparency and access to information for the public.
- Decision making not based upon assessment mechanisms
- Contributions to CO2 reduction not formally proven.

Thank you for your time in reading my letter.

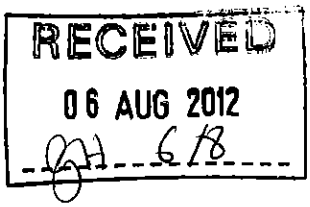
Yours faithfully

[redacted].

From: [redacted]
To: MS LOT Beatrice Representations;
Subject: Objection to Beatrice Offshore Windfarm
Date: 06 August 2012 10:40:45

From:

[redacted]



We object to the proposed development known as Beatrice Offshore Windfarm. Like all residents of Scotland we are already under siege from onshore developments that have significant, unmitigated, health impacts for those within proximity of the developments (up to 10 km based on current medical research). It is intolerable that our seascapes should now suffer the same desecration as our landscapes. Review of the Interactive Marine Planning Map indicates that the East Coast of Scotland will have almost continuous offshore wind developments from the border through to just short of the North Coast with only minor breaks in coverage. The West Coast evidences only marginally less development indicating that with the exception of the Western Isles and the East Coast of Orkney, Scotland will be entirely surrounded by wind turbines!

In particular this development is inappropriate because of the potential impact on the RAMSARs, Marine SPAs and Marine SACs in the vicinity; or, more specifically, on the fish (such as salmon, trout, sandeel, herring and sprats), mammals, other marine wildlife including seabirds and migratory birds such as geese, and aquaculture associated with them.

Whilst skeins of geese are known to be capable of navigating individual turbines, this does not appear to be the case where significant cumulative impact and turbine density exists and thus a development on this scale will undoubtedly have severe welfare consequences for species in the vicinity of the proposed development.

Of particular concern is the Special Area of Conservation at Moray Firth in relation to the Bottlenose Dolphins (Tursiops truncates). Construction and other noise arising from the proposal is likely to extend beyond the windfarm footprint and may overlap with dolphin use of the surrounding environment. Boat movements, cable-laying and other construction

activity may give rise to disturbance. There may also be impacts to the prey species of dolphin – either from the placement of infrastructure or due to noise. The conservation objectives for bottlenose dolphin are:

(i) to avoid deterioration of the habitats of bottlenose dolphin or
(ii) significant disturbance to bottlenose dolphin, thus ensuring that the integrity of the Moray Firth SAC is maintained and that the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features.

And to ensure for bottlenose dolphin that the following are established then maintained in the long term:

(iii) Population of bottlenose dolphin as a viable component of the site.
(iv) Distribution of bottlenose dolphin within site.
(v) Distribution and extent of habitats supporting bottlenose dolphin.
(vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.

The proposal is likely to have significant effects on bottlenose dolphins and their prey species.

There will also be an adverse impact on the tourism associated with the dolphin watching, thus adversely impacting both the individual businesses who currently depend upon the income and, likely, the associated onshore local economy in terms of tourist number decreases due to the industrialization of a previously idyllic rural land and seascape. This has the potential to seriously and detrimentally impact the economy of the region. The Trump Organisation also considers that an offshore windfarm will significantly and detrimentally affect the amenity of tourists and thus negatively impact the Menie Estate development. This is further supported by objectors to many other local proposed turbine developments from all over the world indicating that tourists would be less likely to visit Scotland if the industrialisation of the landscape/seascape is allowed to continue and proliferate.

It is unclear the extent to which the fishing industry will be impacted by the proposed development, both in terms of exclusion zones and habitat changes adversely affecting stocks in the direct vicinity and at a wider range both inshore and for species that migrate across the area of the development.

Whilst claims are made in relation to the reduction in both CO2 and SO2 as a result of this development, it is not specified in the available documentation whether lifecycle carbon accounting rules have been

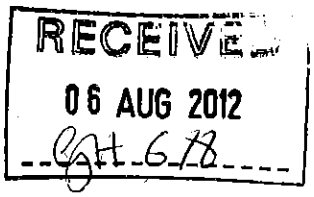
applied, or if these claimed savings relate exclusively to the operational phase of the development and thus exclude between 80% and 95% of the environmental harm and natural capital depletion associated with everything from the rare earth mining, through manufacture (of turbines and base), construction and decommissioning/recycling. There are also no commitments that the turbines will deliver the estimated power during their lifecycle and, as wind power is notoriously unreliable, and therefore requires traditional backup facilities, there is also a knock on effect for end users who are essentially paying twice for generating capacity. Continuing to promote a technology that has repeatedly failed in multiple locations around the world is folly beyond belief, and raises serious questions over the governance of the elected representatives. It also undermines trust in the elected representatives, processes, policies and controls in place to protect the electorate from inappropriate development and poor governance.

Given that the recent UN Economic Commission for Europe finding that the EU is in breach of the Aarhus Convention in relation to its renewable energy programme which is currently therefore proceeding "without proper authority" leaving the way open for citizens to seek that damages be made good under long established legal precedents, it can surely only be a matter of time before those in fuel poverty who are subsidising a technology that is not only unproven, but has been repeatedly demonstrated to be counterproductive and which the country cannot afford, will seek redress through the courts. Add to this the claims from those whose tourist based or fisheries related businesses are impacted, and Scotland is storing up the next "financial crisis" which is likely to see the country in the same situation as Greece currently finds itself.

It is time for those in positions of governance to take off the blinkers, see through the propaganda, and start investing in a truly sustainable future, where the technology is based on proven science and lifecycle carbon accounting principles rather than spurious claims that do not withstand even the most cursory of reviews.

From: [redacted]
To: MS LOT Beatrice Representations;
Subject: Objection to Beatrice Offshore Windfarm
Date: 06 August 2012 10:50:56

From:
[redacted]



We object to the proposed wind energy development known as Beatrice Windfarm. We are already under siege from onshore developments that have significant, unmitigated, health impacts for those within proximity of the developments (up to 10 km based on current medical research). It is intolerable that our seascapes should now suffer the same desecration as our landscapes. The East Coast of Scotland will have almost continuous offshore wind developments from the border through to just short of the North Coast with only minor breaks in coverage. The West Coast evidences only marginally less development indicating that, with the exception of the Western Isles and the East Coast of Orkney, Scotland will be entirely surrounded by wind turbines!

In particular this development is inappropriate because of the potential impact on the RAMSARs, Marine SPAs and Marine SACs in the vicinity; or, more specifically, on the fish (such as salmon, trout, sandeel, herring and sprats), mammals, other marine wildlife including seabirds and migratory birds such as geese, and aquaculture associated with them.

Whilst skeins of geese are known to be capable of navigating individual turbines, this does not appear to be the case where significant cumulative impact and turbine density exists and thus a development on this scale will undoubtedly have severe welfare consequences for species in the vicinity of the proposed development.

Of particular concern is the Special Area of Conservation at Moray Firth in relation to the Bottlenose Dolphins (Tursiops truncates). Construction and other noise arising from the proposal is likely to extend beyond the windfarm footprint and may overlap with dolphin use of the surrounding environment. Boat movements, cable-laying and other construction activity may give rise to disturbance. There may also be impacts to the prey species of dolphin – either from the placement of infrastructure or

due to noise. The conservation objectives for bottlenose dolphin are:

> *(i) to avoid deterioration of the habitats of bottlenose dolphin or (ii) significant disturbance to bottlenose dolphin, thus ensuring that the integrity of the Moray Firth SAC is maintained and that the site makes an appropriate contribution to achievingfavourable conservation status for each of the qualifying features.*

And to ensure for bottlenose dolphin that the following are established then maintained in the long term:

> (iii) Population of bottlenose dolphin as a viable component of the site.
> (iv) Distribution of bottlenose dolphin within site.
> (v) Distribution and extent of habitats supporting bottlenose dolphin.
> (vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.

The proposal is likely to have significant illegal effects on bottlenose dolphins and their prey species.

> **Bottlenose Dolphins are on the World Conservation Monitoring Centre Lists for Globally threatened species and on Schedule 5 (1981 Wildlife and Countryside Act) therefore ANY activity which affects their long term survival is ILLEGAL under EU Law.**

There will also be an adverse impact on the tourism associated with the dolphin watching, thus adversely impacting both the individual businesses who currently depend upon the income and, likely, the associated onshore local economy in terms of tourist number decreases due to the industrialization of a previously idyllic rural land and seascape. This has the potential to seriously and detrimentally impact the economy of the region. The Trump Organisation also considers that an offshore windfarm will significantly and detrimentally affect the amenity of tourists and thus negatively impact the Menie Estate development. This is further supported by objectors to many other local proposed turbine developments from all over the world indicating that tourists would be less likely to visit Scotland if the industrialisation of the landscape/seascape is allowed to continue and proliferate.

It is unclear the extent to which the fishing industry will be impacted by the proposed development, both in terms of exclusion zones and habitat changes adversely affecting stocks in the direct vicinity and at a wider range both inshore and for species that migrate across the area of the

development.

Whilst claims are made in relation to the reduction in both CO2 and SO2 as a result of this development, it is not specified in the available documentation whether lifecycle carbon accounting rules have been applied, or if these claimed savings relate exclusively to the operational phase of the development and thus exclude between 80% and 95% of the environmental harm and natural capital depletion associated with everything from the rare earth mining, through manufacture (of turbines and base), construction and decommissioning/recycling. There are also no commitments that the turbines will deliver the estimated power during their lifecycle and, as wind power is notoriously unreliable, and therefore requires traditional backup facilities, there is also a knock on effect for end users who are essentially paying twice for generating capacity. Continuing to promote a technology that has repeatedly failed in multiple locations around the world is folly beyond belief, and raises serious questions over the governance of the elected representatives. It also undermines trust in the elected representatives, processes, policies and controls in place to protect the electorate from inappropriate development and poor governance.

Given that the recent UN Economic Commission for Europe finding that the EU is in breach of the Aarhus Convention in relation to its renewable energy programme which is currently therefore proceeding "without proper authority" leaving the way open for citizens to seek that damages be made good under long established legal precedents, it can surely only be a matter of time before those in fuel poverty who are subsidising a technology that is not only unproven, but has been repeatedly demonstrated to be counterproductive and which the country cannot afford, will seek redress through the courts. Add to this the claims from those whose tourist based or fisheries related businesses are impacted, and Scotland is storing up the next "financial crisis" which is likely to see the country in the same situation as Greece currently finds itself.

It is time for those in positions of governance to take off the blinkers, see through the propaganda, and start investing in a truly sustainable future, where the technology is based on proven science and lifecycle carbon accounting principles rather than spurious claims that do not withstand even the most cursory of reviews.

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********** **********

This email has been received from an external party and

has been swept for the presence of computer viruses.

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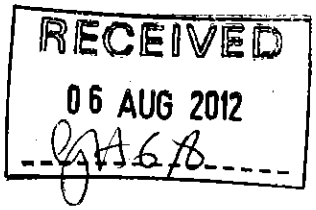
From: [redacted]
To: MS LOT Beatrice Representations;
Subject: Objection to Beatrice Offshore Windfarm
Date: 06 August 2012 11:03:13

From:
[redacted]



I object to the proposed development known as Beatrice Windfarm. Residents of Scotland are already under siege from onshore developments that have significant, unmitigated, health impacts for those within proximity of the developments (up to 10 km based on current medical research). It is intolerable that our seascape should now suffer the same desecration as our landscapes. Review of the Interactive Marine Planning Map indicates that the East Coast of Scotland will have almost continuous offshore wind developments from the border through to just short of the North Coast with only minor breaks in coverage. The West Coast evidences only marginally less development indicating that, with the exception of the Western Isles and the East Coast of Orkney, Scotland will be entirely surrounded by wind turbines - an appalling prospect!

In particular this development is inappropriate because of the potential impact on the RAMSARs, Marine SPAs and Marine SACs in the vicinity; or, more specifically, on the fish (such as salmon, trout, sandeel, herring and sprats), mammals, other marine wildlife including seabirds and migratory birds such as geese, and aquaculture associated with them.

Whilst skeins of geese are known to be capable of navigating individual turbines, this does not appear to be the case where significant cumulative impact and turbine density exists and thus a development on this scale will undoubtedly have severe welfare consequences for species in the vicinity of the proposed development.

Of particular concern is the Special Area of Conservation at Moray Firth in relation to the Bottlenose Dolphins (Tursiops truncates) and the Harbour Porpoise (Phocoena phocoena)
. Construction, including pile-driving into the sea bed, will cause extreme harm to the bottlenose dolphins and harbour porpoises, and other noise arising from the proposal is likely to extend beyond the

windfarm footprint and may overlap with dolphin use of the surrounding environment. Boat movements, cable-laying and other construction activity may give rise to disturbance. There may also be impacts to the prey species of dolphin – either from the placement of infrastructure or due to noise. The conservation objectives for bottlenose dolphin are:

> *(i) to avoid deterioration of the habitats of bottlenose dolphin or (ii) significant disturbance to bottlenose dolphin, thus ensuring that the integrity of the Moray Firth SAC is maintained and that the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features.*

And to ensure for bottlenose dolphin that the following are established then maintained in the long term:

> ***(iii) Population of bottlenose dolphin as a viable component of the site.***
> ***(iv) Distribution of bottlenose dolphin within site.***
> ***(v) Distribution and extent of habitats supporting bottlenose dolphin.***
> ***(vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.***
> ***In addition, Harbour Porpoises are designated are "Globally threatened" and are on Annex II of the Habitats Directive, therefore ANY activity which theatens their survival is*** **ILLEGAL.**
> The proposal is likely to have significant effects on bottlenose dolphins and their prey species.

There will also be an adverse impact on the tourism associated with the dolphin watching, thus adversely impacting both the individual businesses who currently depend upon the income and, likely, the associated onshore local economy in terms of tourist number decreases due to the industrialization of a previously idyllic rural land and seascape. This has the potential to seriously and detrimentally impact the economy of the region. The Trump Organisation also considers that an offshore windfarm will significantly and detrimentally affect the amenity of tourists and thus negatively impact the Menie Estate development. This is further supported by objectors to many other local proposed turbine developments from all over the world indicating that tourists would be less likely to visit Scotland if the industrialisation of the landscape/seascape is allowed to continue and proliferate.

It is unclear the extent to which the fishing industry will be impacted by the proposed development, both in terms of exclusion zones and habitat changes adversely affecting stocks in the direct vicinity and at a wider

range both inshore and for species that migrate across the area of the development.

Whilst claims are made in relation to the reduction in both CO2 and SO2 as a result of this development, it is not specified in the available documentation whether lifecycle carbon accounting rules have been applied, or if these claimed savings relate exclusively to the operational phase of the development and thus exclude between 80% and 95% of the environmental harm and natural capital depletion associated with everything from the rare earth mining, through manufacture (of turbines and base), construction and decommissioning/recycling. There are also no commitments that the turbines will deliver the estimated power during their lifecycle and, as wind power is notoriously unreliable, and therefore requires traditional backup facilities, there is also a knock on effect for end users who are essentially paying twice for generating capacity. Continuing to promote a technology that has repeatedly failed in multiple locations around the world is folly beyond belief, and raises serious questions over the governance of the elected representatives. It also undermines trust in the elected representatives, processes, policies and controls in place to protect the electorate from inappropriate development and poor governance.

Given that the recent UN Economic Commission for Europe finding that the EU is in breach of the Aarhus Convention in relation to its renewable energy programme which is currently therefore proceeding "without proper authority" leaving the way open for citizens to seek that damages be made good under long established legal precedents, it can surely only be a matter of time before those in fuel poverty who are subsidising a technology that is not only unproven, but has been repeatedly demonstrated to be counterproductive and which the country cannot afford, will seek redress through the courts. Add to this the claims from those whose tourist based or fisheries related businesses are impacted, and Scotland is storing up the next "financial crisis" which is likely to see the country in the same situation as Greece currently finds itself.

It is time for those in positions of governance to take off the blinkers, see through the propaganda, and start investing in a truly sustainable future, where the technology is based on proven science and lifecycle carbon accounting principles rather than spurious claims that do not withstand even the most cursory of reviews.

From: [redacted]
To: MS LOT Beatrice Representations;
Subject: Objection to Beatrice Offshore Windfarm
Date: 06 August 2012 11:03:54

From:

[redacted]

As natives of Aberdeenshire we are appalled at the scale of the proposed development known as Beatrice Windfarm. Members of our family still living in Scotland tell us that they are already under siege from onshore developments that have significant, unmitigated, health impacts for those within proximity of the developments (up to 10 km based on current medical research). It is intolerable that the Scottish seascapes should now suffer the same desecration as the unique landscapes. Review of the Interactive Marine Planning Map indicates that the East Coast of Scotland will have almost continuous offshore wind developments from the border through to just short of the North Coast with only minor breaks in coverage. The West Coast evidences only marginally less development indicating that, with the exception of the Western Isles and the East Coast of Orkney, Scotland will be entirely surrounded by wind turbines!
In particular this development is inappropriate because of the potential impact on the RAMSARs, Marine SPAs and Marine SACs in the vicinity; or, more specifically, on the fish (such as salmon, trout, sandeel, herring and sprats), mammals, other marine wildlife including seabirds and migratory birds such as geese, and aquaculture associated with them.

Whilst skeins of geese are known to be capable of navigating individual turbines, this does not appear to be the case where significant cumulative impact and turbine density exists and thus a development on this scale will undoubtedly have severe welfare consequences for species in the vicinity of the proposed development.

Of particular concern is the Special Area of Conservation at Moray Firth in relation to the Bottlenose Dolphins (Tursiops truncates). Construction and other noise arising from the proposal is likely to extend beyond the windfarm footprint and may overlap with dolphin use of the surrounding environment. Boat movements, cable-laying and other construction

activity may give rise to disturbance. There may also be impacts to the prey species of dolphin – either from the placement of infrastructure or due to noise. The conservation objectives for bottlenose dolphin are:

(i) to avoid deterioration of the habitats of bottlenose dolphin or
(ii) significant disturbance to bottlenose dolphin, thus ensuring that the integrity of the Moray Firth SAC is maintained and that the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features.

And to ensure for bottlenose dolphin that the following are established then maintained in the long term:

(iii) Population of bottlenose dolphin as a viable component of the site.
(iv) Distribution of bottlenose dolphin within site.
(v) Distribution and extent of habitats supporting bottlenose dolphin.
(vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.

The proposal is likely to have significant effects on bottlenose dolphins and their prey species.

There will also be an adverse impact on the tourism associated with the dolphin watching, thus adversely impacting both the individual businesses who currently depend upon the income and, likely, the associated onshore local economy in terms of tourist number decreases due to the industrialization of a previously idyllic rural land and seascape. This has the potential to seriously and detrimentally impact the economy of the region. The Trump Organisation also considers that an offshore windfarm will significantly and detrimentally affect the amenity of tourists and thus negatively impact the Menie Estate development. This is further supported by objectors to many other local proposed turbine developments from all over the world indicating that tourists would be less likely to visit Scotland if the industrialisation of the landscape/seascape is allowed to continue and proliferate.

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Given that the recent UN Economic Commission for Europe finding that the EU is in breach of the Aarhus Convention in relation to its renewable energy programme which is currently therefore proceeding "without proper authority" leaving the way open for citizens to seek that damages be made good under long established legal precedents, it can surely only be a matter of time before those in fuel poverty who are subsidising a technology that is not only unproven, but has been repeatedly demonstrated to be counterproductive and which the country cannot afford, will seek redress through the courts. Add to this the claims from those whose tourist based or fisheries related businesses are impacted, and Scotland is storing up the next "financial crisis" which is likely to see the country in the same situation as Greece currently finds itself.

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and/or recorded for legal purposes.

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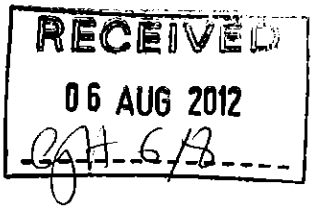
From: [redacted]
To: MS LOT Beatrice Representations;
Subject: Objection to Beatrice Offshore Windfarm
Date: 06 August 2012 11:04:34

From:

[redacted]



We object to the proposed development known as Beatrice Offshore Windfarm. Like all residents of Scotland we are already under siege from onshore developments that have significant, unmitigated, health impacts for those within proximity of the developments (up to 10 km based on current medical research). It is intolerable that our seascapes should now suffer the same desecration as our landscapes. Review of the Interactive Marine Planning Map indicates that the East Coast of Scotland will have almost continuous offshore wind developments from the border through to just short of the North Coast with only minor breaks in coverage. The West Coast evidences only marginally less development indicating that with the exception of the Western Isles and the East Coast of Orkney, Scotland will be entirely surrounded by wind turbines!

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(vi) Structure, function and supporting processes of habitats supporting bottlenose dolphin.

The proposal is likely to have significant effects on bottlenose dolphins and their prey species.

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Dalzell K (Katie)

From: [redacted]
Sent: 08 June 2012 15:17
To: MS LOT Beatrice Representations
Subject: Beauly District Fishery Board
Attachments: Beatrice.pdf

RECEIVED
08 JUN 2012

Dear Sirs

Please find attached letter dated 8 June on behalf of the Board.

Yours faithfully

[redacted]

********** **********

****

Your ref:
Our ref: 111/63
dd: 01463 796053
df:
e: [redacted]
Date: 8 June 2012

[redacted]

Marine Scotland
Licensing Operations Team
PO Box 101
375 Victoria Road
Aberdeen
AB11 9DB

[redacted]

By email: Beatrice@scotland.gsi.gov.uk

Dear Sirs

Beauly District Fishery Board
Consultation Response – Marine Licence Application
Beatrice Offshore Wind Farm

I write on behalf of the [redacted] in order to register an objection to the above Licence Application. [redacted] has a statutory responsibility to protect and improve salmon and sea trout fisheries within the Beauly District. Given the migratory nature of these species, the proposed development may well have a direct impact upon the salmonid interests covered by the Board's statutory remit.

The Board wholly endorses the submission made by the [redacted], a copy of which is attached. The Moray Firth is an important migratory route for salmonid species both to and from their natal rivers throughout the east coast of Scotland. Should this proposed development have a damaging impact upon these species, the economic consequences throughout these parts of Scotland could be hugely significant and should not be underestimated. Marine Scotland, as the appropriate competent authority in this instance, has a statutory duty under the EU Habitats Directive to ensure that the protected species are not endangered.

The Board is very concerned to note the apparent deficiencies in the proposed monitoring of these impacts, the details of which are given in the attached submission. As a consequence of this, the Board has no alternative but to object to this proposal.

Yours faithfully

[redacted]

RECEIVED
08 JUN 2012

[redacted]

Response to the marine licence application for the Beatrice Offshore Wind Farm project June 2012

Introduction

The [redacted] is the representative body for Scotland's 41 District Salmon Fishery [redacted] including the [redacted] which have a statutory responsibility to protect and improve salmon and sea trout fisheries. The Association and Boards work to create the environment in which sustainable fisheries for salmon and sea trout can be enjoyed. Conservation of fish stocks, and the habitats on which they depend, is essential and many [redacted] operate riparian habitat enhancement schemes and have voluntarily adopted 'catch and release' practices, which in some cases are made mandatory by the introduction of Salmon Conservation Regulations. [redacted] creates policies that seek where possible to protect wider biodiversity and our environment as well as enhancing the economic benefits for our rural economy that result from angling. An analysis completed in 2004 demonstrated that freshwater angling in Scotland results in the Scottish economy producing over £100 million worth of annual output, which supports around 2,800 jobs and generates nearly £50million in wages and self-employment into Scottish households, most of which are in rural areas.

We have significant concerns relating to the proposed development, particularly with regard to the uncertainty surrounding the potential negative effects on Atlantic salmon and sea trout and the integrity of a number of Special Areas of Conservation for Atlantic salmon.

Overarching Comments

1. Designated Species

As highlighted in the Environmental Statement a number of rivers in the area are designated as Special Areas of Conservation (SAC), part of the Natura 2000 network – a series of internationally important wildlife sites throughout the European Union. The conservation objectives for these sites are set out below[1].

> *To avoid deterioration of the habitats of the qualifying species or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and*
>
> *To ensure for the qualifying species that the following are maintained in the long term:*
>
> - *Population of the species, including range of genetic types for salmon, as a viable component of the site*
> - *Distribution of the species within site*
> - *Distribution and extent of habitats supporting the species*
> - *Structure, function and supporting processes of habitats supporting the species*
> - *No significant disturbance of the species*
> - *Distribution and viability of freshwater pearl mussel host species*
> - *Structure, function and supporting processes of habitats*

The Habitats Directive (article 6) requires that *Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.*

It also states: *In the light of the conclusions of the [appropriate] assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only*

[1] http://gateway.snh.gov.uk/sitelink/index.jsp

after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

If this is not the case and there are no alternative solutions, the proposal can only be allowed to proceed if there are imperative reasons of overriding public interest.

The conservation status of the Atlantic salmon qualifying interest for the various SACs (First Assessment Cycle) are set out in Table 1 below. In addition, a number of these SACs are also designated for FW pearl mussel.

SAC	Qualifying Interest	Conservation Status
River Borgie	Atlantic salmon	unfavourable recovering
River Naver	Atlantic salmon	unfavourable recovering
River Thurso	Atlantic salmon	unfavourable recovering
Berriedale & Langwell Waters	Atlantic salmon	unfavourable recovering
River Oykel	Atlantic salmon	unfavourable recovering
River Moriston	Atlantic salmon	unfavourable recovering
River Spey	Atlantic salmon	unfavourable recovering
River Dee	Atlantic salmon	favourable maintained

Table 1: Conservation status of SACs for Atlantic salmon in the area of the development.

In all cases, with the exception of the Berriedale and Langwell Waters SAC, the Salmon rod catch trends in these SACs as analysed by Marine Scotland Science, show that the spring stock component is in decline. The second assessment cycle is nearing completion, and the results of this assessment must be taken into account in the licensing decision. We believe that the assessment is likely to show that the early running spring component of many of these Atlantic salmon populations continues to deteriorate.

In addition, [redacted] have a statutory obligation to protect sea trout. The marine phases of both Atlantic salmon and sea trout have also been included on the draft list of Priority Marine Features drawn together by SNH - the habitats and species of *greatest conservation importance* in inshore waters.

2. Climate Change Mitigation and Adaptation

As for many other species, climate change has been identified as a threat to Atlantic salmon. The species' developmental rate is directly related to water temperature, and increasing temperature in freshwater may result in smolts developing more rapidly and entering the ocean at a suboptimal time in relation to their planktonic food sources.

In addition, as air temperatures warm, much of the snow that feeds the river systems is expected to melt earlier. This will lead to a reduction in the flow of many rivers in the spring and summer, which will increase water temperatures further and may reduce the overall optimal habitat available to the Atlantic salmon. It is also clear that survival of salmon and sea trout during their marine migration phase has fallen over the last 40 years. Some of this reduced survival can be explained by changes in sea surface temperature and subsequent contraction of feeding grounds.

The first priority in mitigating these effects is to control atmospheric concentrations of greenhouse gases and we note that the Scottish Government has committed to meeting a stated target of 50% of Scotland's electricity demand from renewable sources by 2020. However, with further climate change inevitable in the short to medium term, attention is now focusing on the development of accommodation and adaptation strategies, through which adverse effects on species or ecosystems can be minimized. Some of the key needs with respect to developing adaptation strategies for rivers and their biodiversity were summarised by Ormerod (2009 – *Aquatic Conserv: Mar. Freshw. Ecosyst.* 19: 609–613).We would highlight the following key point in particular: *to minimize the adverse effects on river biodiversity of actions taken to mitigate climate change.*

3. Potential Negative Effects of Offshore Renewable Devices

Offshore renewable developments have the potential to directly and indirectly impact anadromous fish such as Atlantic salmon and sea trout. We would therefore expect developers to assess the potential impacts of deployed devices on such fish during the deployment, operation and decommissioning phases. Such potential impacts have been highlighted by Marine Scotland Science and could include:

- Avoidance (including exclusion from particular rivers and subsequent impacts on local populations);
- Disorientation effects that could potentially affect behaviour, susceptibility to predation or by-catch; and
- Impaired ability to locate normal feeding grounds or river of origin; and delayed migration

ASFB therefore recommend to our members that careful consideration should be given to the following activities:

i. Subsea noise during construction

A recent review commissioned by SNH[2] states that 'Marine renewable energy devices that require pile driving during construction appear to be the most relevant to consider, in addition to the time scale over which pile driving is carried out, for the species under investigation'.

ii. Subsea noise during operation

iii. Electromagnetic fields (EMFs) arising from cabling

The SNH-commissioned review (cited above) has shown that EMFs from subsea cables have the potential to interact with European eels and possibly salmonids if their migration or movement routes take them over the cables, particularly in shallow waters (<20m). Marine Scotland Science are currently undertaking a research programme which aims to investigate electro-magnetic force impacts on salmonids. We would hope to have some results from this work later in 2012. It is vital that all cables are appropriately shielded to ensure that EMF effects are below any threshold of effect for salmonids.

iv. EMFs arising from operation of devices

It is important to ensure that such effects are quantified and assessed in the Environmental Statement.

v. Disturbance or degradation of the benthic environment (including secondary effects on prey species)

It is important to ensure that such effects are quantified and assessed in the Environmental Statement.

vi. Aggregation effects

Whilst the aggregation of prey items around physical structures might be seen as a positive effect, possible negative effects might include the associated aggregation of predators.

4. General Comments on the Application

Guidance issued by Marine Scotland Science relating to information requirements on diadromous fish of freshwater fisheries interest states that an Environmental Statement should provide information on the use of the development area by such fish and that if such information was lacking then a suitable monitoring strategy should be devised. Indeed, Marine Scotland Science regard the monitoring undertaken at existing offshore developments such as Robin Rigg as being inadequate. No monitoring strategy is set out in the application and indeed, the ES states, *'In the absence of detailed information on the migratory routes of salmon and sea trout it is assumed that they transit the Wind Farm as part of their normal migration. In addition, they are assumed to transit the site as part of their foraging activity (particularly sea trout)'*. We therefore believe that the lack of meaningful monitoring in the present proposal is extremely disappointing and completely inadequate. We note

[2] Literature review on the potential effects of electromagnetic fields and subsea noise from marine renewable energy developments on Atlantic salmon, sea trout and European eel. Available at: http://www.asfb.org.uk/wp-content/uploads/2011/06/SNH-EMF-Report1.pdf

that Section 11.6 states that BOWL will work with key stakeholders and Marine Scotland to identify any future monitoring programmes considered necessary. We welcome this undertaking, but we would emphasise that any monitoring strategies must include pre-construction monitoring in order that baseline information on salmon and sea trout movement, abundance, swimming depth, feeding behaviour etc. can be collected.

We also note that it is very difficult to assess risk to migratory salmonids as there is little detailed information on: the likely size of the scheme; the type of devices to be deployed; and the degree of confidence attached to the assessment of impacts.

Specific comments

Our specific comments relate to the potential effects highlighted in Section 3 above.

11.4.1 Construction/Decommissioning

We note that the comments attributed to Marine Scotland in Annex 5A, state that *'a monitoring strategy was required if impacts are uncertain'*. It is clear, throughout the ES, that potential impacts on migratory fish carry a great deal of uncertainty and there for we are surprised and disappointed not to see a clear monitoring strategy laid out in the accompanying documentation.

11.4.1.1. Increased Suspended Sediment Concentrations and Sediment Re-deposition

This section appears to be based on a single study by Bertwell (1999) which only assesses the effects of sediment on fish in freshwater. We are unclear of the relevance of this study to the effect of sediments in the marine environment.

11.4.12. Noise

Paragraph 70 makes reference to soft piling, in order to trigger avoidance reactions in mobile species in the immediate vicinity of piling locations (where the noise levels are likely to be above the tolerance limit of sound and potentially damaging). The underwater noise modelling technical report (Annex 7A) assumes a swim speed of 1.5m/sec. However, no information is provided on the duration of such soft piling, nor has such duration been related to the swimming speeds of fish (at different life stages), in order to assess the possibility of such fish swimming out of the zone of effect. Given that swim speeds for juvenile fish are lower than those of adult fish, the conclusion in paragraph 71 (that juveniles are assessed using the same criteria as adults with regard to hearing) may be incorrect with regard to avoidance responses of different life stages of fish. Indeed, this assertion is based on assumptions from studies on sea bream, damselfishes and labyrinth fish and not on salmonid fish. Given the paucity of information on noise effects, we do not believe that soft piling alone is an appropriate mitigation. The ES sets out a number of options for turbine design (including gravity bases) of which the worst case scenario for noise is impact piling of pin piles. We believe that, given the sensitivity of early running returning spring salmon, and the uncertainty of effects on juvenile fish, that it is appropriate, should consent be granted for the development, that a condition of consent is that no impact pilling occurs during the period from March to June (inclusive). Such a condition is consistent with the precautionary principle and would still allow other forms of construction to continue during this period.

While figure 11.3 demonstrates an expected strong avoidance reaction only in close proximity to the foundations. However, at the lower threshold level of 75 dB_{ht} (representing significant avoidance) the area which salmon would avoid (Figure 11.5) is much greater. Whilst Annex 7A states that the this effect is probably transient and limited by habituation, 85% of fish were found to react to this level of noise, and we believe it is possible that noise at this threshold level has the potential to at least delay smolt migration over a significant proportion of the NW Moray Firth. Such a delay could, for example, make smolts more susceptible to predation. It must also be noted that salmonid smolts are physiologically stressed in adapting to the environmental challenge of movement between freshwater and seawater. Simultaneous challenge from noise, EMFs etc. during this transition will constitute a significant additional stressor. Stress leads to increased plasma levels of the stress hormone cortisol. Corticosteroids cause a range of secondary effects, including hydromineral imbalance and changes in

intermediary metabolism (Wendelaar Bonga, 1997)[3]. In addition, tertiary responses extend to a reduction in the immune response and reduced capacity to tolerate subsequent or additional stressors (Wendelaar Bonga, 1997).

Paragraph 78: Given the acknowledged lack of information as to the migratory routes of Atlantic salmon and the marine habitat of sea trout, we are unclear as to the relevance of the location of SAC rivers with regard to providing an indication of the ecological significance of the predicted effect. During pre-application discussions with the developers we have continually stressed the need for information on migratory routes and habitat usage for migratory salmonids. In the absence of such data (and the ES simply assumes that they are present – paragraph 80), [redacted] and [redacted] in assessing the risks of the development to migratory fish, have no alternative but to assume that the entire run of each river will use the area under development. We note that the comments attributed to Marine Scotland in Annex 5A, state that *'it needs to be categorically established which species are present on the site, and where, before the application is considered for consent'*.

11.8.5.2 Cumulative impacts of construction noise

Paragraph 182 makes clear that there is potential for a negative moderate cumulative effect on the SAC populations of Atlantic salmon. Annex 7A, models a number of scenerios whereby differing numbers of different diameter piles driven simultaneously across the BOWL and MORL developments are assessed. However, no information is provided as to the likelihood of these scenarios should these developments be consented. The last page of Annex 7A, states that, "The area of sea affected by noise from simultaneous piling generally is not much greater than if the piling was undertaken at separate times. Indeed, the total area is often less due to the overlap of the insonified areas". However, this is not the case for Atlantic salmon and indeed the area of sea potentially affected by simultaneous piling at the lower threshold level of 75 dB_{ht} (representing significant avoidance) is significantly greater. Whilst we understand that the availability of vessels to undertake this piling work is limited, we would expect to see a clear indication of the number of pilling sites likely to be developed at one time, in order that the possible effects on migratory fish can be assessed. We therefore restate that there should be no impact piling, either in the BOWL or the MORL development during the period from March to June (inclusive). It may also be appropriate to ensure, as a condition of consent, that there is a limit on the number of piling sites that can be used simultaneously during construction.

11.4.2 Operation

11.4.2.1. Loss of Habitat

Paragraph 97 and 98 suggest that, *despite a lack of current data on the distribution of sand eels within the site and the wider area to the spatial scale required for this assessment*, the effect of habitat loss is assessed to be negligible and probable. Given the importance of sandeel as a prey species for a wide range of species (including Atlantic salmon and sea trout), and a priority marine feature in their own right, we find it very hard to have any confidence in this assessment.

Paragraph 99 suggests that habitat loss will result in a negligible and probable effect on Atlantic salmon. However, we would highlight that our concerns relating to habitat loss would primarily be on prey species, such as sandeel, and we would again highlight our lack of confidence in the assessment of sandeel.

11.8.5.3. Cumulative Impact of Loss of Habitat

Again, we lack confidence in the assessment here, due to the considerable uncertainty in relation to the distribution of sand eels in the area.

11.4.2.2. Introduction of New Habitat

Paragraph 100 states that localised, long term positive changes on the overall diversity and productivity of the seabed communities are expected to occur as a result of the introduction of hard substrate. It is likely that such structures will act as fish aggregation devices (FADs), rather than actually increasing biomass. However, if the structures do act as FADs we would also be concerned that such areas may in fact represent new 'pinch points' for predation of migrating smolts and returning adults, in an area which we must consider as a key migration route for salmon and a key feeding area for sea trout. This possibility is alluded to in paragraph 112, but does not appear to be considered further.

[3] Wendelaar Bonga, S. E. (1997). The stress response in fish. *Physiol.l Rev.* 77, 591-625.

11.4.2.3. Electromagnetic Fields
This section makes reference to research by Normandeau *et al.* (2011) and indeed quotes averaged predicted magnetic fields above and horizontally along the sea bed for AC cables (Table 11.17). However, the figures quoted in Table 11.17 assume a burial depth of 1m, whereas the document makes frequent reference to burial of cables to a minimum depth of 0.6m. There appears to have been no effort to assess the predicted magnetic field values at this burial depth.

Paragraph 116 highlights the depths of the wind farm site and states that strength of magnetic field decreases with distance from source, concluding that the position of the particular species in the water column and water depth will influence the potential effects of EMFs. We agree – however this again highlights the vital importance of a monitoring strategy to determine swimming depth of migratory salmonids in the development area. In the absence of such monitoring, it is difficult to assess the risks of the development to migratory fish. We would note that the differing life strategies of Atlantic salmon and sea trout mean that these species must be treated differently in this respect (see below).

Paragraph 131 states that salmon and sea trout transiting the area of the wind farm will for the most not be exposed to the strongest EMFs are they normally swim in the upper meters of the water column during migration. However, this assessment does not take into account the foraging behaviour of sea trout, which we (and the developers) assume use the area in question. No information is presented as to the depths at which such fish forage. We also note that the SALSEA project has shown that Atlantic salmon are capable of diving to considerable depths.

We are aware that Marine Scotland Science are currently undertaking a research programme which aims to investigate electro-magnetic force impacts on salmonids. Until this work is completed, we are unable to assess the relative magnitude of this impact, or relate the figures quoted in Table 11.17 to those magnetic fields likely to initiate a behavioural response in salmonids.

11.8.5.4. Cumulative impact of EMFs
Again, until the research currently being undertaken by Marine Scotland Science is complete, we are unable to assess the relative magnitude of the cumulative impacts, or relate the figures quoted in Table 11.17 to those magnetic fields likely to initiate a behavioural response in salmonids. Until this work is completed, there is at least a theoretical risk that EMFs arising from both inter-array cables and offshore transmission cables could present a barrier to fish migration.

11.4.2.4 Operational Noise
No comment.

11.5 Mitigation measures and residual effects
We are very disappointed to see that no mitigation measures are included other than inter-array cable burial/protection, *where feasible*, are proposed to reduce the effects associated with the construction/decommissioning and operation phase of the development. We believe that ***all*** inter-array cabling should be buried to a suitable depth (and in the absence of any other information, we believe that the minimum depth should be 1m) or have a suitable shielding material placed over them. We do not believe that there should be any exceptions to this, irrespective of the technical difficulties involved. In addition, we would highlight our comments regarding mitigation in our response to section 11.4.12 (above).

11.9 Habitats Regulations Appraisal
We do not consider the information presented to be sufficiently robust to draw the conclusion that there are not likely to be significant effects, particularly with regard to Atlantic salmon and sea trout. We therefore consider that an appropriate assessment, based on pre-construction monitoring will be required. Clearly, the appropriate assessment must take into account the cumulative and in combination likely significant effects arising from the MORL and other developments.

11.10 Statement of Significance
The ES concludes that the construction/decommissioning and operation phase of the development will *in general terms* not result in significant effects in relation to EIA regulations. However, as highlighted above, we do not

consider the information presented to be sufficiently robust to draw this conclusion, particularly with regard to Atlantic salmon and sea trout.

23.4.1. Construction/Decommissioning Phases of the Offshore Transmission Works

23.4.1.1. Increased Suspended Sediment Concentrations and Sediment Re-deposition
We note the recognition of the proximity of the proposed cable landfall to the River Spey and the possibility for fish to be disturbed prior to river entry and/or immediately after leaving the river if transiting the southern sections of the OfTW corridor. Paragraph 66 notes that works in close proximity to the shore should only be undertaken over a limited period of time, and that the seasonality or river entry and the diversity of runs should be noted. We would expect that, should the development be consented, close liaison with the Spey Fishery Board on the timing of such work should be a requirement of consent.

23.4.1.2. Noise and Vibration
No comment

23.4.2. Effects Arising from the Operational Phase of the Offshore Transmission Works

This section recognises that, given the central location of the OfTW corridor in the context of the Moray Firth area, the uncertainties in relation to migratory patterns not only for fish originating in the Moray Firth rivers but also in other areas of Scotland, and the proximity of the proposed cable landfalls to salmon and sea trout rivers (particularly the Spey), it is likely that salmon and sea trout will transit the OfTW area. This assumption is backed up by Annex 16B, which refers to the recent review by Marine Scotland Science, which suggests that these species migrate in both an easterly and westerly direction along the Moray coast. As stated earlier, we are aware that Marine Scotland Science are currently undertaking a research programme which aims to investigate electro-magnetic force impacts on salmonids. Until this work is completed, we are unable to assess the relative magnitude of the impact of EMFs arising from either an AC or DC cable.

Conclusion

As stated above, [redacted] recognises the importance of offshore renewable energy. However, the environmental statement has failed to demonstrate that the development will not adversely affect the integrity of the SAC rivers around the Moray Firth. Where a Natura site is involved, the onus is on the developer to demonstrate no impact and in the absence of that the precautionary principle will apply. Under these circumstances, we do not consider that the proposed development is compatible with the requirements of the Habitats Directive or Scotland's Marine Nature Conservation Strategy. On that basis, we have no alternative but to formally object to the proposed development, until adequate monitoring and mitigation strategies have been put in place.

For further information please contact:

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Tel: [redacted] | Email: [redacted]

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[redacted]

The Scottish Government
Marine Scotland Licensing Operations Team
Marine Laboratory
PO Box 101
375 Victoria Road
Aberdeen, AB11 9DB

9 May 2012

Dear Sirs

Beatrice Offshore Windfarm.

I am contacting you in connection with the above.

I would like to inform you that, in recognition of the need to combat global warming and also in appreciation of government policy for renewable energy, the Community Council, at its meeting on 30 April 2012, resolved to lend its support to this proposal.

Yours Sincerely

[redacted]

Chairman

[redacted]