

MORAY FIRTH RENEWABLES ADVISORY GROUP (MFRAG) MEETING MINUTES

Meeting	MFRAG Ornithology Sub- Group	
Date	21 February 2018	
Location	EDPR, 4 th Floor, 40 Princess Street Edinburgh EH2 2BY	
Attendees	Marine Scotland Science (MSS)	Ian Davies (ID) [chair], Jared Wilson (JW)
	Marine Scotland Licensing and Operations Team (MS-LOT)	Giulia Agnisola (GA)[conf call]
	Scottish Natural Heritage (SNH)	Erica Knott (EK), Catriona Gall (CG), Chris Eastham (CE), Alex Robins (AR) [conf call]
	Royal Society for the Protection of Birds (RSPB)	Aly McCluskie (AM) [conf call]
	BOWL	Lis Royle (LR), Nick Brockie (NB); Joe Deimal (JD) BOWL O&M representative
	MacArthur Green	Mark Trinder (MT)
	Moray East	Sarah Pirie (SP), Catarina Rei (CR)
	Royal HaskoningDHV	Ben King (BK)
	APEM	Sean Sweeney (SS), Beth Goddard (BG), Stephanie McGovern (SM), Stuart Clough (SC)
	Joint Nature Conservation Committee (JNCC)	Orea Anderson (OA)
	University of Aberdeen	Paul Thompson (PT), Aude-Benhemma Le Gall (ALG)
Apologies	N/A	
Actions	<ol style="list-style-type: none"> 1. Suitability of ECC for studying puffin colony to be discussed at next MFRAG-O meeting. 2. GA to check BOWL PEMP on MS-LOT homepage and update to latest version agreed on 19th of September 2017 (on MFRAG homepage). 3. APEM to undertake power analysis and report to MFRAG-O in April. 4. Moray East to confirm whether flight height data from aerial survey will be reported. 5. CR to distribute ORE Catapult tagging report. 6. MFRAG-O meeting to agree Moray East survey programme to be arranged for April. 	

1. Introductions & Terms of Reference

Introductions.

Terms of Reference need to be updated to reflect changes in the membership of groups. Terms of reference to be discussed at MFRAG Parent meeting on 22nd Feb.

2. Review of MoM actions from last meeting

Last meeting minutes are from 12th November 2015 and so many of the outstanding actions are now superseded. Outstanding actions from the previous meeting are as follows:

- Action 1, 2 and 4: Closed.
- Action 5: Ongoing.
- Action 6: Closed.
- Action 7: Strategic data to be discussed as part of today's meeting (Agenda Item 5).
- Action 8: SPORRAN update to provided in today's meeting (Agenda Item 5.2).
- Action 10/11: SNH in ongoing discussions with University of Glasgow. Pellet survey data could be used to identify key foraging areas. Plot count paper was published and can be used to inform survey effort. To be discussed as part of Agenda Item 5.3.
- Action 18: To be discussed as part of Agenda Item 4.2/5.
- Action 22-25: Closed.
- Action 26: Superseded.
- Actions 34-36: Identification of an area of coastline that would be suitable for colony counts. SNH undertook surveys in 2015 and follow up surveys in 2016. Draft reports are due to be published soon. 2015/2016 data should be able to identify which colonies are best to use, however, further discussion required on whether East Caithness Cliffs are suitable location to study puffin. **To be discussed next MFRAG-O meeting.**
- Action 37-46: Complete/Superseded.
- Action 47: Report circulated previously. AR to re-circulate. ORE Catapult report.
- Action 48: Complete

It was agreed that actions related to operational aspects of the group would be classed as closed and removed from 'actions list'.

Actions	1. Suitability of ECC for studying puffin colony to be discussed at next MFRAG-O meeting.
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3. Project Updates

3.1 BOWL Project update

BOWL (Update provided by LR/ NB)

LR presented BOWL's updates, a summary of the presentation is below:

- BOWL was consented in 2014 and reached FID in May 2016.

- Construction started in March 2017.
- BOWL construction programme (as of Feb 2018):
- Piling activity commenced in April 2017 and completed in December 2017 with piles successfully installed at all 84 turbine locations and 2 OTM locations.
- Installation of jackets started in August 2017. Approximately 50% of jackets have now been installed. Jacket installation is due for completion July/August 2018.
- The poor weather over the autumn/winter period had resulted in some delays in the offshore construction programme, but the project is still on programme to meet first generation target of 1st July 2018.
- The first OTM jacket and topsides have been installed. The second jacket is ready for installation.
- Export cable duct installation was completed successfully in July 2017 without problems.
- Installation of the first export cable was completed in December 2017, including rock protection where insufficient cable burial was achieved. Installation of the OTM inter connector and the second export cable is due to complete in May 2018.
- The 2017 inter-array cabling campaign was completed successfully. Cable burial was successful. The second installation campaign due in spring/summer 2018.

LR presented some photos of the BOWL construction works. Further detail is available on the project website www.Beatricewind.co.uk and the Twitter feed @Beatricewind.

NB provided a summary of the BOWL PEMP activities to date;

- The updated PEMP report (Rev 2) was approved at the MFRAG meeting of the 19th of September, 2017.
- It was noted that MFRAG home page has the updated PEMP but the MS-LOT homepage still has previous version. GA to check and update.
- The next planned PEMP update will be during spring / summer 2018 to include a summary of the Construction MMMP results and the results of the landfall post construction beach condition survey.

At this update the PEMP will also be split into two documents, a wind farm PEMP and OfTW PEMP to reflect the future split in assets ownership.

Actions	2. GA to check BOWL PEMP on MS-LOT page and update to September 2017 version.
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3.2 Moray East Project Update

SP provided an update on Moray East, presentation summarised below:

- In summer 2017, Engie was confirmed as new finance partner.
- CfD was awarded in September 2017 at £57.50 strike price. Milestone delivery date of 6th of October where FID must be reached or 10% of CAPEX spent. Project delivery will be based on positive FID.

- Detailed offshore site investigations began in 2017 and are ongoing. Challenging weather conditions have caused delays to survey programme. Surveys will continue in 2018.
- There is a very challenging timescale for reaching key project milestones for FID. First batches of pre-construction plans to be sent to MS-LOT for consultation in March.
- The number of WTGs to be installed is 100 which is significantly less than the consented 186 across the Stevenson, Telford and MacColl sites. The foundation design has been confirmed as being a three-legged jacket. The piling strategy (PS) had stated that the design would be a three or a four-legged design so actually less piling required than assessed as the worst case scenario. The OFTO PS will be submitted later in 2018 but will follow a similar principle to wind farm PS.
- Landfall will be near Inverboyndie.
- Onshore consent applications are due to be submitted in April 2018.
- Moray East and SHE substations will be on same site.
- BOWL due to finish construction activities 2 weeks before Moray East start of construction.
- Moray East has selected a range of contractors with substantial offshore experience. Mitsubishi-Vestas, VBMS, Geosea, Siemens and NKT. Full EPCI contracts to be signed at Financial Close.

4. Moray East Ornithology Monitoring

CR presentation, summary as follows:

- Start of MFRAG-O meetings, November 2014. Six meetings have been held during 2014-2015. Agreement has been reached on survey techniques and which key species monitoring should be focused on. For the pre-construction monitoring aerial surveys were agreed as the most appropriate monitoring technique.
- Moray East now in a position to start pre-construction monitoring as construction due to start in 2019. It had been previously agreed that 1 year of pre-construction survey would be undertaken. BOWL's survey was completed in 2015. Moray East's survey would be in 2018.
- Moray East would like to agree the approach to developing detailed survey proposal. A Power Analysis (PA) had previously indicated that three surveys would be sufficient to provide enough power to detect change.
- Moray East have procured APEM to undertake pre-construction surveys and develop suitable survey methodology.

APEM presentation (SS);

- There are three years between BOWL and Moray East pre-construction surveys. In this time data collection, modelling and analysis methods / guidance have progressed, so revisiting previous proposed approach would be beneficial.
- The 2018 pre-construction survey programme would need to begin in May, in line with the agreed monitoring approach. APEM proposed undertaking a new PA based on MRSea alongside consideration of new survey methods to determine the most robust method.

- Moray East will look to carry out the PA during March with a view to agreeing with stakeholders the pre-construction survey design via an MFRAG-O meeting in April.
- If agreement is not met prior to May, original proposed methods could be used as a default.
- BOWL and Moray East transects have been co-joined with a minimum buffer of 10km around the WF boundary. This provides a large area which provides power in analysis.
- APEM proposed to re-test the PA using MRSea and alternate survey methods successfully used on other post-consent monitoring projects. At present the assumption is for the provision of a May/June/July survey programme (same as BOWL's) would be most appropriate, as BOWL's surveys reported increasing numbers of non-resident birds in August, hence not including that month. BOWL undertook post survey PA, which proved sufficient power was gained from their campaign.
- MT noted that BOWL's method also focused on turbine locations so more data was collected from within the WF boundary than within the buffer.
- SM replied that as part of the PA, APEM can consider the survey design BOWL is using.
- SS replied that APEM will look at differences between transect and grid methods to determine most robust method.
- AM enquired if APEM's approach would consider cross-platform data issues so that data from different surveys can be managed/compared?
- MT stated that it would be difficult to remove cross platform data issues from the data analysis. One option maybe to extend BOWL's future survey area and join surveys together, however, there is a need to agree strategy quickly and begin collecting data for Moray East. The results of PA now may also indicate that the 2015 methods are no longer the most robust available. Monitoring could be merged in the future.
- **ID asked if the group was happy with Moray East's approach noting a request that APEM consider how data from different surveys can be linked/consider regional issues. Group was happy with use of MRSea and pleased Moray East is reviewing the survey approach to improve methodology in order to gain the best data set possible.**
- SP noted that whilst regional issues are properly considered by MFRAG BOWL and Moray East have responsibility for discharging their own conditions and consideration of regional issues should not prevent progress to meeting project specific commitments and milestones.
- SP noted that there would be a potential benefit for BOWL and Moray East to combine monitoring efforts in the future. LR agreed and noted further discussion would be useful.
- JW enquired if flight height data would be collected and included in the survey report. CR replied that given the current status of uncertainty regarding flight height data that Moray East would propose not to provide this data. Tagging studies have been proposed for the post-construction monitoring to address the specific issue of flight height monitoring.
- SS stated that APEM will collect flight height data during the survey programme and will provide to Moray East, however, it was noted that collecting these data is not one of the core aims of the monitoring programme and as such if sample sizes are low they may not be suitable for meaningful analysis.

<ul style="list-style-type: none"> - JW, AM and MT supported the inclusion of flight height data in the report with caveats on any data analysis as required. - Moray East to confirm whether flight height data will be provided in survey reports. 	
Actions	<p>3. APEM to undertake power analysis and report to MFRAG-O in April.</p> <p>4. Moray East to confirm whether flight height data from aerial survey will be reported.</p>
5. Strategic Research	
5.1 Project Tag	
<p>Overview of project provided by CR:</p> <ul style="list-style-type: none"> - The Project Tag was developed as follow up to the 2014 tagging survey. It was identified that technology needed to improve for monitoring purposes as battery life was too short for meaningful data to be collected for monitoring. - The Project Tag, which was managed by ORE Catapult, was designed to look at tag development. The project was well received with interest from UK and international manufacturers. The conclusion of the project is that tag development is evolving and it is not far from a state where they could meet the target specifications to enable a robust monitoring. - Catapult identified several routes to market. The most viable route to market at the moment is for purchasers to pool orders to reduce cost per unit. - AM enquired if Georeferencing of tags had been considered to increase battery life. JW replied that some manufacturers have been incorporating this ability in their tags. 	
5.2 SpORRAn update	
<p>Update provided by ID and JW:</p> <ul style="list-style-type: none"> - The Ornithology evidence map has been signed off. The Ornithology and Marine Mammal SpORRAn sub-groups are being used to identify and distribute small grants for research. - Underwater acoustics work is being progressed, mainly in relation to the tidal sector. SAMS and SMRU are both undertaking projects looking into this specific field. - For ornithology, there is proposed research to identify sensitive foraging areas and a contractor is procured to feed into SEA work on future licencing rounds. 	
5.3 Other Planned/Ongoing Research	
<ul style="list-style-type: none"> - AR noted that there is ongoing work to look at urban gull vs colony gull foraging habits to identify foraging areas and behaviour. A multi-party workshop was held to discuss issues around identifying foraging areas for urban gulls and SAC gulls to identify any policy gaps. - PT stated that he would be interested in the seabird data being collected to be available for marine 	

mammal research (e.g. aerial data). PT highlighted that the University of Aberdeen would be willing to share some marine mammal data that maybe useful for seabird research. PT added that work being undertaken on fish populations and habitat would be useful for both seabird and marine mammal research.

- SS noted that APEM have recently collected flight height data for onshore birds during combined LIDAR & digital image survey methods and that APEM are currently further developing this capability for use in offshore environment for seabirds.

Actions	5. CR to distribute Catapult report.
6. AOB	
Actions	6. Moray East to confirm date for MFRAG-O next meeting to agree survey approach.