

## **MEMORANDUM OF UNDERSTANDING – 2010 UPDATE**

### **WIND TURBINES AND AVIATION RADAR (MITIGATION ISSUES)**

1. The Climate Change Act 2008 sets a legally binding target of at least an 80% cut in UK greenhouse gas emissions by 2050. In the shorter term it sets a target rate of a reduction in emissions of at least 34% by 2020. As part of EU-wide action to increase the use of renewable energy, the UK also has a legally-binding commitment to source 15% of its energy from renewable sources by 2020. This represents an increase in the share of renewables by a factor of at least 5 between 2010 and 2020.
2. The long-term target requires the UK to decarbonise our electricity supply during the 2030s, which will be achieved by a major expansion of renewable and nuclear energy, and the introduction of carbon capture and storage. This expansion will also be essential in order to ensure the security of our electricity supplies.
3. Deployment of about 28GW of wind energy by 2020 - onshore and offshore - is expected to be needed to deliver the targets, compared with current deployment of 5GW. The Government also intends to realise the economic development benefits from wind deployment, including many thousands of new green jobs.
4. Wind turbines can have significant effects on radar, which in turn is a major barrier to deployment. Aviation radar objections to wind farms arise from three distinct groups of aviation stakeholders: the MoD (for air defence and military air traffic control); NATS En Route in respect of its regulated en route air traffic control service; and terminal civilian air navigation service providers, namely airports.
5. This conflict illustrates the constraint on aviation's ability to meet its commitment to Government policies, international obligations and licence conditions. It is noted that the licence conditions of certain air navigation service providers prevent them from investing in technologies that do not directly benefit their aviation customers. Solutions will need to be found which compromise neither the safe operation nor the significant benefits delivered by the aviation industry to the UK economy.
6. In recent years, planning law and policy throughout the UK has come to focus more on early pro-active pre-planning consultation to identify key issues for the decision maker, particularly when considering large offshore wind farm

projects where the developer is expected to have identified aviation mitigation solutions before submission of the planning application.

7. These changes highlight the need for early assessment of potential aviation issues and, where appropriate, consideration of potential and proportionate mitigation solutions. Aviation stakeholders recognise that they will need to provide resources and expertise to help the wind industry identify the most pragmatic solutions for mitigating sites, whilst not compromising on their licence obligations to provide safe and efficient aviation services.
8. In the UK, it is estimated that over 10GW of onshore wind energy and 15-20 GW of offshore wind energy could be held up by aviation objections over the next decade.
9. In 2010, radar issues accounted for over 6.5GW worth of objections in the planning system. It is estimated that a further 5GW of projects that are likely to be held up by aviations constraints are in development pre-planning, while approximately 1.3GW of projects are consented but with aviation issues outstanding that require solutions before construction can begin.
10. DECC (formerly BERR), DfT, MoD, RenewableUK (formerly BWEA), CAA and NATS/NERL signed an MOU in 2008 which committed them to work together to identify mitigation solutions, and drive forward progress on projects corralled under an 'Aviation Plan'. The Aviation Plan was endorsed by representatives of the relevant aviation stakeholders and focused on those workstreams most likely to succeed in bringing forward workable solutions.
11. The Aviation Plan is an evolving document. To own it and take responsibility for monitoring progress and driving delivery, three bodies were set up: the senior-level Aviation Management Board (AMB); the technical Aviation Advisory Panel (AAP); and the Fund Management Board (FMB). The projects under the Aviation Plan and the membership of these groups have evolved as progress has been made. With the Scottish Government, the Crown Estate and AOA joining the MOU, representatives from each of these organizations will join the AMB as well as continuing to be engaged with the AAP. Beyond this, we do not expect any further changes in governance as a result of this MOU.
12. The Aviation Plan has seen considerable achievements so far, with contracts being let to further research and development on En-Route and Air Defence radar and integration software to eliminate the problems of interference; and new defence radar being jointly purchased and installed.

13. The Plan is now entering a new phase where it needs to continue supporting relevant resource, research and development projects, while at the same time ensuring that software and hardware solutions are implemented. In addition, it is an opportunity to address other aspects beyond radar to deliver a cohesive and coordinated way forward related to all aviation issues, including navigation and communications.
14. Delivering the Aviation Plan will also require that all signatories commit to best efforts to delivering their part of the work on time, and to working together to scope a workplan to roll out effective mitigations and identify the means to fund and deliver the plan, subject to resources. As this is a highly innovative and complex field it is critical that credible technical advice and expertise is also made available by the signatories to this MOU to support the development and deployment of the Aviation Plan.
15. The wind industry recognises that it is the responsibility of the wind farm developer to achieve an acceptable aviation mitigation solution when required in cooperation with the aviation industry. The aviation industry recognises that it is the responsibility of the aviation stakeholder to engage with the developer in a manner that will allow for reasonable, consistent and timely advice on the identification of mitigation solutions. The wind industry also recognises that the current budgetary constraints within Government and through the FMB will continue to support, so far as possible, the investment into research and development projects.
16. For their part Government Departments will continue to explore financial, regulatory and legislative levers to push forward the delivery of mitigation solutions where a national approach is necessary, within the legal and financial constraints that signatories to this MOU and others (airlines and other ANSPs) are required to operate in, or where a change in the regulatory paradigm to facilitate the deployment of sub-national / regional mitigations would be of assistance. It is further recognised that only the Government authorities can effect change to the regulatory frameworks under which aviation stakeholders and wind farm developers operate.

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We, the signatories to this Memorandum of Understanding (MOU), commit to working together to implement the Aviation Plan and to ensuring the timely and effective delivery of solutions to mitigate the effects of wind turbines on aviation in order to promote the deployment of wind energy generation, whilst taking all necessary steps to protect air safety and air defence requirements.

We accept that the development and deployment of radar and wind-turbines which can more effectively co-exist, together with new ways of working, will be increasingly necessary if the Government's ambitions for wind energy deployment are to be met.

Signed:

CAA 

DECC 

MoD 

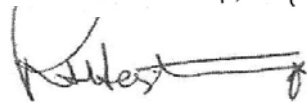
AOA 

Scottish Executive 

 DfT

 NATS/NERL

M. Mc Caffery. RenewableUK

 The Crown Estate

