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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

24th meeting
Strasbourg, 29 November – 3 December 2004

**Draft Recommendation
on minimising adverse effects of wind power
generation on birds and bats**

*Document prepared by BirdLife International
and reviewed by the Directorate of Culture and Cultural and Natural Heritage*

This draft recommendation has been prepared by BirdLife International and reviewed by the Secretariat.

The Standing Committee is invited to examine and, if appropriate, adopt the draft recommendation.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Draft Recommendation No. ... (2004) examined on ... December 2004 on minimising adverse effects of wind power generation on birds and bats

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention,

Having regard to the aims of the Convention to conserve wild fauna and its natural habitats;

Recalling that Article 2 of the Convention requires Parties to take requisite measures to maintain the population of wild fauna at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic requirements;

Recalling that Article 3.2 of the Convention requires each Contracting Party to undertake, in its planning and development policies and in its measures against pollution, to have regard to the conservation of wild fauna;

Recalling also the Convention on the Conservation of Migratory Species of Wild Animals (CMS) Resolution 7.5 on Wind Turbines and Migratory Species adopted by the 7th meeting of the Conference of the Parties (2002) and recognising the intention of the CMS to increase cooperation with the Bern Convention;

Recalling also the Agreement on the Conservation of Bats in Europe (EUROBATS) Resolution 4.7 on wind turbines and bat populations adopted by the 4th Session of the meeting of Parties (2003);

Recognising the environmental benefits of wind energy especially for addressing climate change, and the significance of reducing climate change for the long-term survival of Europe's wild birds;

Noting that wind farms, especially in marine areas, represent a relatively new technology for large-scale energy production the actual effects of which on nature and on different components of biodiversity cannot be fully assessed or predicted on the basis of the currently available information;

Concerned about the potential negative impacts of wind turbines and associated infrastructure on wild birds, as well as on their food sources and habitats, including:

- (a) loss of, or damage to, and disturbance of habitat (including permanent or temporary feeding, resting, and breeding habitats);
- (b) disturbance leading to displacement or exclusion, including barriers to movement (and commuting corridors);
- (c) collision mortality of birds in flight;

Recognising the need for a thorough environmental assessment procedure prior to selecting appropriate building sites and deciding on construction permits, in order to avoid damage to areas of particular ecological value;

Referring to the report *Wind Farms and Birds: an analysis of the effects of wind farms on birds and guidance on environmental assessment criteria and site selection issues*, prepared by BirdLife International for the Council of Europe T-PVS/Inf (2003) 12;

Aware of the need for robust, objective baseline studies to inform sensitive siting to minimise deleterious effects on birds, other wildlife and their habitats, and the need for regular post-construction monitoring at consented installations where there are environmental sensitivities;

Recommends that Contracting Parties to the Convention:

1. take appropriate measures to minimise the adverse effects of wind turbines in birds, taking into account Resolution 7.5 of the Seventh Conference of the Parties of the Convention on the Conservation of Migratory Species of Wild Animals (Appendix 2) and applying those cautions to non-migratory bird species that might be affected by those turbines;
2. take appropriate measures to minimise the adverse effects of wind turbines in bats, taking into account Resolution 4.7 on wind turbines and bat populations of the 4th Session of the meeting of Parties of the Agreement on the Conservation of Bats in Europe (appendix 3) and applying those cautions to other bat species that might be affected by those turbines;
3. make use, as appropriate, of the guidelines set out in Appendix 1 to this recommendation, as summarised from the above referred report, on (A) criteria for environmental assessment; (B) precautions for site selection of wind farms; and (C) priorities for research to enable impacts of wind farms on birds to be minimized;
4. communicate to the Standing Committee the relevant steps which have been adopted or are envisaged concerning the implementation of this recommendation as well as information on the outcome of measures adopted, including a review of how the recommendation has helped their planning of wind energy developments;

Invites observer states to take note of this recommendation and implement it as appropriate.

APPENDIX 1

Guidelines

Measures that may be considered as appropriate for minimising the negative impacts of wind power generation are listed for implementation by Contracting Parties. There is strong consensus that the location selected for wind farms is critically important to avoiding deleterious impacts on birds.

A. Criteria for Environmental Assessment

- (a) National governments must undertake Strategic Environmental Assessment (SEA)¹ of all wind energy plans and programmes in their country. If there are potential trans-boundary effects, then international co-operation with other governments should be sought when undertaking the SEA. The scale of SEA should be determined by consideration of the likely biological scale of impacts as well as jurisdictional boundaries.
- (b) Specifically, these SEAs should include indicative mapping of bird populations, their habitats, flyways and migration routes (see B below) and an assessment of the plan's probable effects on these, to aid decision-making.
- (c) Thorough environmental assessment² should be undertaken for all wind farm developments that have the potential for damaging effects on wild birds or the wider environment, or in areas where there is uncertainty as to the potential effects. Environmental assessments of wind energy developments should include both:
 - i) comprehensive environmental impact assessment for individual projects AND
 - ii) cumulative impact assessment of each wind farm proposal (including associated infrastructure onshore and offshore, such as new roads, power lines and under-sea cabling) in conjunction with other projects (both other wind farms and other relevant projects).
- (d) The use of standard methods is essential to ensure comparability, adopting the Before-After Control-Impact (BACI) approach with consistent application of these methods before, during and after construction in the wind farm area and a reference area for comparison.
- (e) In case of lacking knowledge and in areas of particular importance to birds, a **minimum** one-year baseline field study should be undertaken to determine the use of the study-area by birds.
- (f) Post-construction monitoring needs to enable short- and long-term effects and impacts to be distinguished and satisfactorily addressed.
- (g) There is a need for best practice guidance on standard study methods, to inform the EIA process.

The following species are indicative of those that should tend to be focal species for environmental assessments where they are at risk as they are considered to be particularly sensitive, or potentially so, to wind farms (disturbance displacement, barriers to movement, collision, habitat loss or damage), although in many cases there is a lack of impact studies to date. Focal species are likely to be site and issue specific and may change in the light of further research or change in conservation status.

¹ For example, as set out in Directive 85/337/EC of the European Parliament and of the Council 'on the assessment of the effects of certain plans and programmes on the environment' (SEA Directive).

² For example, as set out in Directive 2001/42/EC of the European Parliament and of the Council 'Assessment of certain public and private projects on the environment' (EIA Directive) as amended by Directive 97/11/EC.

| Species group (eg species) | Disturbance displacement | Barrier to movement | Collision | Direct habitat loss/damage |
|---|--------------------------|---------------------|-----------|----------------------------|
| <i>Gaviidae</i> , divers (red-throated diver <i>Gavia stellata</i>) | √ | √ | √ | |
| <i>Podicipedidae</i> grebes | √ | | | |
| <i>Sulidae</i> gannets & boobies | | | √ | |
| <i>Phalacrocoracidae</i> (shag <i>Phalacrocorax aristotelis</i>) | | | | √ |
| <i>Ciconiiformes</i> herons & storks | | | √ | |
| <i>Anserini</i> , swans (whooper swan <i>Cygnus cygnus</i>) and geese (pink-footed goose <i>Anser brachyrhynchus</i> , European white-fronted goose <i>A. albifrons</i> , barnacle goose <i>Branta leucopsis</i> , brent goose <i>B. bernicla</i>) | √ | | √ | |
| <i>Anatinae</i> , ducks (eider <i>Somateria mollissima</i> , long-tailed duck <i>Clangula hyemelis</i> , common scoter <i>Melanitta nigra</i>) | √ | √ | √ | √ |
| <i>Accipitridae</i> raptors (red kite <i>Milvus milvus</i> , white-tailed sea eagle <i>Haliaeetus albicilla</i> , lammergeier <i>Gypaetus barbatus</i> , griffon vulture <i>Gyps fulvus</i> , imperial eagle <i>Aquila heliaca</i> , golden eagle <i>A. chrysaetos</i> , Bonelli's eagle <i>Hieraetus fasciatus</i>) | √ | | √ | |
| <i>Charadriiformes</i> waders (European golden plover <i>Pluvialis apricaria</i> , black-tailed godwit <i>Limosa limosa</i> , Eurasian curlew <i>Numenius arquata</i>) | √ | √ | | |
| <i>Sternidae</i> terns | | | √ | |
| <i>Alcidae</i> alcids/auks (guillemot <i>Uria aalge</i>) | √ | | √ | √ |
| <i>Strigiformes</i> owls | | | √ | |
| <i>Tetraonidae</i> (black grouse <i>Tetrao tetrix</i> , capercaillie <i>T. urogallus</i>) | √ | | √ | √ |
| <i>Gruidae</i> cranes | √ | √ | √ | |
| <i>Otididae</i> bustards | √ | | √ | √ |
| <i>Passeriformes</i> especially nocturnal migrants | | | √ | |

B. Precautions for Site Selection of Wind Farms

There is strong consensus that the location selected for wind farms is critically important to avoiding deleterious impacts on birds.

- (a) There should be precautionary avoidance of locating wind farms in designated or qualifying sites for nature conservation, including Important Bird Areas (IBAs), or other areas with large concentrations of birds, such as migration crossing points, or species identified as being of conservation concern. The favourable conservation status of habitats and species in these areas is a central tenet to their designation, requiring demonstration of compatibility with this aim by any proposed development
- (b) As part of effective regional planning, there is a need to identify species and areas of concern, to map potential and no-go locations for wind energy development based on nature conservation concerns, for example avoidance of migratory corridors and other large concentrations of birds. This may require the collection of additional information, especially offshore.
- (c) There is a need for statutory marine protected areas to be identified and designated.

C. Priorities for research to enable impacts of wind farms on birds to be minimized

- (a) Research and monitoring should be implemented by national governments and the wind energy industry, in consultation with relevant experts, to improve our understanding of the impacts of wind farms. This will be an iterative process that will inform decision-making, appropriate site selection and wind farm design. The results of research should be published in international scientific journals, including a summary, preferably in English, to ensure wider dissemination.
- (b) Research and monitoring requirements should encompass the following:
 - i effects and potential population level impacts on birds of disturbance displacement, barriers to movement, collision mortality and habitat loss or damage;
 - ii effectiveness of different wind farm layouts and turbine design to provide mitigation.
- (c) There need to be incentives to ongoing technological development to maximise efficiency of wind farms and to reduce dependency on the limited shallow water habitats offshore.
- (d) A useful subject for further study is to look in detail at individual case studies to evaluate examples of conflict resolution, case law, or trends in casework throughout the Council of Europe area.



APPENDIX 2

Convention on the Conservation of Migratory Species of Wild Animals



RESOLUTION 7.5*

WIND TURBINES AND MIGRATORY SPECIES

Adopted by the Conference of the Parties at its Seventh Meeting (Bonn, 18-24 September 2002)

Recalling that Article II of the Convention acknowledges the need to take action to avoid any migratory species becoming endangered;

Recalling also the need to preserve wildlife in the marine environment as stipulated in the relevant legislation of the European Community and in the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), the Helsinki Convention on the Protection of the Baltic Sea Area, the Bern Convention on the Conservation of European Wildlife and Natural Habitats, and the Bergen Declaration of the Fifth International Conference on the Protection of the North Sea;

Acknowledging Article VII of the Convention whereby the Conference of the Parties may make recommendations to the Parties for improving the effectiveness of this Convention;

Considering that the Strategic Plan for 2000 - 2005 adopted by Resolution 6.4 requires Parties to review the special problems faced by migratory animals in relation to various obstacles to migration and to propose remedial measures that may have widespread applicability;

Recognising that Resolution 4.5 directs the Scientific Council *inter alia* to recommend solutions to the Conference of the Parties to problems relating to the scientific aspects of the implementation of the Convention in particular with regard to the habitats of migratory species;

Recognising the environmental benefits of wind energy especially for addressing climate change, and the significance of reducing climate change for the long-term survival of migratory species;

Noting that wind turbines especially in marine areas represent a new technique of large scale energy production, the actual effects of which on nature and on different components of biodiversity cannot be fully assessed or predicted at present;

Recognising the lack of sufficient and relevant research on such effects, especially on nature, and the lack of data on the distribution and migration of species concerned;

Concerned about the possible negative impacts of wind turbines on migratory species of mammals and birds, as well as on their food sources and habitats *e.g.*:

- (a) destruction or disturbance of permanent or temporary feeding, resting, and breeding habitats;
- (b) increased collision risk for birds in flight;

* The original draft of this resolution, considered by the Conference of the Parties, was numbered 7.13.

- (c) through electric and magnetic fields of connecting power cables; or
- (d) emission of noise and vibrations into the water;

Recognising the need for a thorough environmental impact assessment prior to selecting appropriate building sites and issuing construction permits, in order to avoid areas of particular ecological value and habitats with high nature conservation needs;

Aware of the need to regularly monitor and assess the actual impacts of wind turbines by exchange of international experience and site-specific effect monitoring programmes in existing wind turbine plants; and

Noting especially the potential risk that several hundred of such marine installations with heights up to 150 metres may present as obstacles in flyways, and wishing to minimise possible adverse effects on nature;

***The Conference of the Parties to the
Convention on the Conservation of Migratory Species of Wild Animals***

1. *Calls* upon the Parties:
 - (a) to identify areas where migratory species are vulnerable to wind turbines and where wind turbines should be evaluated to protect migratory species;
 - (b) to apply and strengthen, where major developments of wind turbines are planned, comprehensive strategic environmental impact assessment procedures to identify appropriate construction sites;
 - (c) to evaluate the possible negative ecological impacts of wind turbines on nature, particularly migratory species, prior to deciding upon permission for wind turbines;
 - (d) to assess the cumulative environmental impacts of installed wind turbines on migratory species;
 - (e) to take full account of the precautionary principle in the development of wind turbine plants, and to develop wind energy parks taking account of environmental impact data and monitoring information as it emerges and taking account of exchange of information provided through the spatial planning processes;
2. *Instructs* the Scientific Council to assess existing and potential threats from offshore wind turbines in relation to migratory mammals and birds, including their habitats and food sources, to develop specific guidelines for the establishment of such plants and to report to the Conference of the Parties accordingly at its next meeting; and
3. *Invites* relevant intergovernmental organizations as well as the European Community and the private sector to cooperate with CMS in efforts to minimise possible negative impacts of offshore wind turbines on migratory species.

* * *

APPENDIX 3

**The Agreement of the Conservation of Bats in Europe****RESOLUTION No. 4.7****WIND TURBINES AND BAT POPULATIONS**

Adopted by the Session of the Meeting of Parties (Sofia, 22-24 September 2003)

The Meeting of the Parties to the Agreement on the Conservations of Populations of European Bats (hereafter “the Agreement”),

Recalling Article III, Paragraph 6 of the Agreement, which stipulates that “Each Party shall take such additional action as it considers necessary to safeguard populations of bats which it identifies as being subject to threat and shall report under Article VI on the action taken.”;

Appreciating Resolution 7.5 adopted by the Seventh Meeting of the Conference of Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS) concerning Wind Turbines and Migratory Species;

Recognising that the Terms of Reference for the Advisory Committee give it the task to recommend solutions to the Meeting of Parties to problems relating to the scientific aspects of the implementation of the Agreement;

Further recognising the environmental benefits of wind energy especially for addressing climate change and the significance of reducing climate change for the longterm survival of bat populations;

Noting the potential of large scale development of wind turbines as a new technique of energy production for which the actual effects on bats are not fully assessed or predicted at present;

Noting also that there is existing evidence of mortalities of bats from wind turbines;

Concerned about the possible negative impacts of wind turbines on bat populations as well as their prey and habitats e.g.:

- destruction and disturbance of habitats and commuting corridors,
- destruction or disturbance of roosts,
- increased collision risk for bats in flight,
- through emission of ultrasound noise.

Recognising the need for a thorough environmental impact assessment prior to selecting appropriate construction sites in order to avoid areas of particular value to bat populations;

Aware of the need to regularly monitor and assess the actual impact of wind turbines by international exchange of information and by monitoring programmes at existing wind turbine plants;

Recognising the need for adequate relevant research on such effects on bats and the limited data available on bat populations potentially affected;

Noting especially the potential risk to bat populations that such installations may present; and

Wishing to minimise possible adverse effects on bat populations;

Decides to:

Request the Advisory Committee to assess the evidence of the impacts of wind turbines on bat populations and, if appropriate, to develop guidelines for assessing potential impacts on bats and for the establishment of wind turbines in accordance with the ecological requirements of bat populations;

Emphasise that until this task is completed, the Parties and Range States should take full account of the precautionary principle in the development of wind turbine plants and to take account of bats in planning processes relating to the siting of wind turbines, especially along migration routes and in areas of particular value to bat populations;

Encourage the Parties and Non-Party Range States to initiate and support further investigations and research on the impact of wind turbines on bats.