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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

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File open

Wind farms in Balchik and Kaliakra –Via Pontica (Bulgaria)

- REPORT OF THE ON-THE-SPOT APPRAISAL -

(15-16 May 2018)

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SUMMARY

This is the third on-the-spot appraisal by the Bern Convention of windfarm developments on the Bulgarian Black Sea coast. Concerns were originally raised in 2002 about the potential impacts on wildlife, in particular the wintering population of Red Breasted Geese *Branta ruficollis* and the internationally significant numbers of other birds migrating along the "Via Pontica" flyway. Since then, the Convention's Standing Committee has reviewed the issue each year, during which time proposals have expanded and several hundred wind turbines have been built. A formal Case File was opened in 2006.

During this time also Bulgaria joined the European Union: designation of sites for the Natura 2000 network under the EU nature Directives became another aspect of the case, and various legal challenges included one which resulted in the European Court of Justice finding against Bulgaria on several counts relating to windfarm developments.

The appraisal mission was asked to review the situation concerning existing constructed windfarms in the Kaliakra area, and to examine planning and assessment procedures for future developments. It was further asked to investigate the measures taken in response to the European Court judgement and to the list of actions specified several years earlier in Bern Convention Recommendation No. 130 (2007); and to make recommendations. Meetings were held with the Bulgarian authorities and a range of other stakeholders, and windfarms were visited in the field.

Positive elements of progress noted by the mission include the following:

- The Kaliakra European Special Protection Area has been extended to cover the full original area that was identified for it.
- The early warning system and protocols for turbine shutdown, operated jointly by the Kaliakra windfarms, represents a significant investment in efforts to mitigate potential bird mortality from collisions against moving turbine blades. Monitoring data suggest that levels of this kind of mortality to date have been low.
- As required by law, associated new powerlines have been undergrounded, further reducing risk to birds.
- A Strategic Environmental Assessment and a Habitats Directive Appropriate Assessment were completed for the National Renewable Energy Action Plan in 2012, and environmental measures and a monitoring plan have been appended to it. It is reported that further developments to meet the national wind energy generation target could now achieve that objective wholly from areas judged to be low risk for birds.
- Aspects of relevant impact assessment processes appear to have advanced in some positive ways, and guidance documents have been produced.
- State subsidies are no longer given for windfarm developments in sensitive locations (although they perhaps still apply through electricity pricing).
- After 2012, unimplemented wind energy development consents became subject to a five-year expiry clause, and no such consents now remain in effect in the Kaliakra area.
- Under the National Renewable Energy Plan, further wind energy developments (after August 2012) are prohibited in Natura 2000 sites and some other sensitive locations, at least until 2020 (when the Plan is due for renewal).
- In the Dobrudzha coastal region, each individual Special Protection Area's Designation Order also includes a prohibition on wind energy developments within the site.

Issues which are still cause for concern include the following:

- The comprehensive assessment of windfarm impacts which the Bern Standing Committee called for has not been carried out.
- Research has shown evidence of displacement and barrier effects on geese in the area; although how this may translate into impacts on the bird populations is not yet clear.

- Apart from bird collisions with moving turbine blades, no other types of impact (e.g. other collisions, displacement, barrier effects, changes in habitat) have been the subject of any measures for mitigation or compensation.
- The finalisation of an Integrated Management Plan for the three Natura 2000 sites in the Kaliakra area has been halted as a result of public controversy, and there appears to be no immediate prospect of re-starting it.
- A climate of antagonism and mistrust between the authorities and some conservation NGOs is preventing constructive dialogue and the sharing of scientific information (although government information is public).
- There are aspects of previous recommendations on impact assessment that still need attention, notably cumulative effects assessment and peer review.
- International best practice guidance on e.g. impact assessment and mitigation appears not to be being used.

The report concludes with recommendations for ten main priority actions to be pursued over the next 12 months. These cover the following topics:

- Completing the previously requested comprehensive assessment of windfarm impacts.
- Developing a broader regime for on-going monitoring and assessment.
- Creating conservation gains, either to offset the risks and/or damage introduced by the constructed windfarms or to contribute in other ways to agreed conservation priorities.
- Retaining the option of turbine removal if compensation and mitigation actions do not progress as expected.
- Re-confirming/enhancing relevant protective provisions in the successor to the present National Renewable Energy Action Plan.
- Reporting on measures to respond to the various specifics concerning impact assessment contained in Bern Recommendation No. 130 (2007).
- Making use of relevant international standards and best practice guidance.
- Developing a proposal for an externally-supported capacity-building project.
- Implementing the Red Breasted Goose Conservation Action Plan.
- Sharing the findings of this appraisal with other interested international bodies.

Overall it would appear that aspects of Bulgaria's planning, environmental assessment and decision-making processes in relation to coastal wind energy developments in the past have been extremely problematic; but much has been done in recent years to improve the approach. There are those of course who will argue that this comes too late to avert the damage that has already been done; but the scale of that damage is itself very far from clear; and perhaps only much longer-term wildlife population trend analyses, and clearer ways of attributing cause to effect, will give an accurate answer.

In the meantime a number of important actions that the mission believes should be attended to have been identified in this report, including some as-yet unfulfilled elements of the original Recommendation No. 130 (2007). If new evidence of appreciable progress on these actions is provided by Bulgaria within the timeframes suggested here, then it is conceivable that closure of the file in Case No. 2004/2 might be contemplated by the Standing Committee at its 39th meeting at the end of 2019.

1. BACKGROUND AND OBJECTIVES OF THE MISSION

The origins of this case date back to 2002, when windfarm developments were proposed for the Balchik area of the Bulgarian Black Sea coast. A complaint was submitted to the Bern Convention Secretariat by the Bulgarian Society for the Protection of Birds/BirdLife Bulgaria (BSPB) in 2003, citing perceived threats to the internationally significant numbers of birds for which Balchik is a bottleneck on the "Via Pontica" migratory flyway, as well as to the globally threatened Red Breasted Goose *Branta ruficollis* which over-winters in the area. Concerns were also raised in relation to potential impacts on bats and on habitats. Further windfarms were subsequently proposed for the nearby Kaliakra area.

The Convention's Standing Committee has reviewed this issue each year since then. Two on-the-spot appraisal visits have been carried out prior to the present one. Following the first of these in 2005[1], the Committee adopted Recommendation No. 117 (2005), asking the Bulgarian government to reconsider its decision to approve the proposed windfarm at Balchik. The government declined, and a Bern Case File was formally opened in 2006.

Following the second on-the-spot appraisal in 2007 (undertaken in conjunction with the Convention on Migratory Species, the African-Eurasian Migratory Waterbird Agreement and the Eurobats Agreement)[2] the Committee adopted Recommendation No. 130 (2007) "on the windfarms planned near Balchik and Kaliakra, and other windfarm developments on the Via Pontica route (Bulgaria)". The ten substantive points of this Recommendation have continued to represent the Committee's formal stance on the issue for the decade since then, and have served as a primary framework for the present mission.

In parallel with these events, local planning processes for the development proposals have been the focus of challenges concerning potential conservation impacts, including in the courts. In the context of the European Union Directives on Birds, on Habitats and on Environmental Impact Assessment, the European Commission opened infringement proceedings against Bulgaria which culminated in a judgement of the European Court of Justice (ECJ) in January 2016, finding against the government on several counts. Following the desire of the Bern Standing Committee to be informed about the follow-up to this judgement, given its coverage of issues linked to the Bern Case File, this has also been addressed by the present mission.

The Terms of Reference for the mission were based on instructions from the Convention's Standing Committee and the Bureau, taking account of information provided by the Bulgarian authorities and the NGO complainants; and they were agreed in advance with the Bulgarian Ministry of Environment and Water. The agreed objectives were as follows:

i) To collect information on the status of implementation and functioning of already developed and planned wind farms in the Kaliakra area, with a view to assessing the actualization needs of Recommendation No. 130 (2007).

ii) To examine the windfarm planning procedures and SEA/EIA standards used in Bulgaria, in particular in the Kaliakra area.

iii) To collect information on the state of development and implementation of measures developed in response to the ECJ decision.

iv) To review the progress made so far by the Government of Bulgaria in response to Bern Convention Recommendation No. 130 (2007), including the draft Integrated Management Plan's contribution to addressing the points of concern.

v) To discuss the issues with relevant competent authorities at national and local level, including the NGOs, local stakeholders and citizen groups.

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[1] Garry J (2005). On-the-spot appraisal of a projected wind farm plant near Balchik (Bulgaria). Report of appraisal undertaken on 26-30 September 2005. Document T-PVS/Files (2005) 8 presented to the 25th meeting of the Standing Committee of the Bern Convention, Strasbourg, 28 November - 1 December-2005.

[2] Kuijken E (2007). On-the-spot appraisal: wind farms in Balchik and Kaliakra – Via Pontica (Bulgaria). Report of appraisal undertaken on 20-22 June 2007. Document T-PVS/Files (2007) 27 presented to the meeting of the Standing Committee of the Bern Convention, Strasbourg, 26-29 November 2007.

vi) To draft recommendations to the Bulgarian authorities on actions to undertake to ensure the necessary safeguards are in place to avoid clashing with biodiversity priorities when developing wind energy installations.

The sections in the present report cover all of these issues, but in a slightly rearranged structure, so that the major themes are drawn out and a sequence is followed that looks first at the existing situation and then at the future.

Although as mentioned above the 2007 mission was undertaken jointly with other international agreements, the Bulgarian authorities rejected that option on this occasion. Nevertheless those other agreements continue to have a shared interest in the issues concerned, and it is hoped at least that the findings of this report will be shared with them.

Given the long history of this case and the two previous on-the-spot appraisal missions, the 2018 visit and the present report have sought to avoid repeating ground already covered by earlier deliberations.

The mission's purpose was not to make an arbitration between competing claims, nor to reach scientific findings or give definitive technical advice about the impacts of windfarms on nature conservation interests. Its emphasis instead was on fact-finding, reviewing and distilling a forward-looking perspective that will support the proper implementation of provisions agreed in the framework of the Bern Convention.

It was not a specific objective of the mission to seek ways of expediting the closure of the Case File (which is ultimately a matter for the Standing Committee); although routes to that possible outcome have been taken into account in framing the recommendations.

2. STATUS OF WIND ENERGY DEVELOPMENTS IN THE KALIAKRA AREA

Although Bern Recommendation No. 130 (2007) includes references to wind energy developments in Bulgaria as a whole, and in its coastal areas in particular, the mission was asked to focus specifically on the Kaliakra area. The title of the Recommendation (and of Complaint No. 2004/2) refers to both Kaliakra and Balchik: at Balchik there had been a proposal for 24 turbines of which 12 had been consented; but the authorities say that the investor concerned at this site is no longer pursuing the proposal and hence they asked that this area be excluded from the scope of the mission.

In the Kaliakra area, in summary the situation with the different developments/ proposals is as follows:

- "*AES Geo Energy/St Nikola*".
  52 turbines, of the largest (3MW) kind. Within the Kaliakra Special Protection Area, and covered by the ECJ Decision (see below). Approved, constructed and operational.
- *"Disib".*
  3 turbines. Within the Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved, constructed and operational.
- *"Longman Investment".*
  1 turbine. Within the Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved, constructed and operational.
- *"Kaliakra Wind Power/Mitsubishi".*
  35 turbines. Within the Kaliakra Complex Special Area of Conservation and the Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved, constructed and operational. An extension of the operating licence to 2042 was applied for in 2017 but refused. (The existing licence runs to 2024).
- *"EVN Enertrag".*
  8 turbines. Within the Kaliakra Complex Special Area of Conservation and the Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved (first for 32 turbines and then reduced to 20), partly constructed (8 turbines) and operational.

- *"Vertikal – Petkov".*
  2 turbines. Within the Kaliakra Complex Special Area of ConservationSite of Community Importance and the Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved (for 3 turbines), partly constructed (2 turbines) and operational.
- *"Windtech".*
  4 turbines. Within the (eventual) Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved, but time-limited consents have expired, so not constructed.
- *"Brestiom".*
  6 turbines. Within the (eventual) Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved, but time-limited consents have expired, so not constructed.
- *"Eco Energy".*
  1 turbine. Within the (eventual) Kaliakra Special Protection Area, and covered by the ECJ Decision. Approved, but time-limited consents have expired, so not constructed.
- *"TSID – Atlas".*
  An unspecified number of turbines. Proposed within the (then) Kaliakra Complex Site of Conservation Importance and the Kaliakra Special Protection Area. Consent refused, so excluded from the European Commission's case to the ECJ; and not constructed.

Policy drivers for development of renewable energy in Bulgaria include targets set in the context of EU obligations; initially under Directive 2001/77/EC and later under Directive 2009/28/EC. The latter seeks an overall contribution of 20% of the EU's electricity generation as a whole to be from renewable sources by 2020. Each Member State has a national target to contribute to this, and in Bulgaria's case this is now 16% of the national generation capacity. It is not known what proportion wind energy is expected to contribute to this national total.

The plan for achieving this target is set out in the National Renewable Energy Action Plan 2011-2020, which was approved in 2012. The Action Plan was subject to a Strategic Environmental Assessment (SEA) and an Appropriate Assessment (see section 7 below); but it does not go into matters of locational planning nor does it discuss individual projects.

Current wind energy generation capacity in Bulgaria stands at some 699 MW, and there has been no increase in this figure since 2014. It is not known what proportion this contributes to the national target for renewables, and there appears to be no target for the wind component itself.

Offshore wind energy development in the Black Sea has not been pursued, and there is apparently little interest in doing so, because the wind velocities are not sufficient to give a cost-effective return on the level of investment that would be required.

3. ACTION IN RESPONSE TO THE JUDGEMENT OF THE EUROPEAN COURT OF JUSTICE

Judgement by the European Court in case C-141/14 was given in January 2016, so aspects of it have already been considered by the two most recent meetings of the Bern Convention Standing Committee. The four main findings of the Court, and the latest perspectives on the consequences of them, are summarised in turn below.

It should be noted that the judgement, after rehearsing the facts of the case and the arguments put, goes no further by way of conclusions than formally declaring the specific terms in which Bulgaria has failed to fulfil its obligations in EU law. It does not have the purpose of prescribing any remedies or defining any other actions. Some logically related actions can nevertheless be *inferred*; and others may be offered by the authorities or suggested by NGOs. The European Commission in any event has been pursuing its expectations about follow-up actions in discussion with Bulgaria. A number of meetings and exchanges of documents between the Commission and Bulgaria have taken place, but these documents have not been provided to the mission.

In its **first finding**, the Court declared that Bulgaria had failed to fulfil its obligations under Articles 4.1 and 4.2 of the Wild Birds Directive 2009/147/EC, by including an insufficient extent of important bird habitat within the designated Kaliakra Special Protection Area (SPA). In response, Bulgaria has extended the SPA to cover the whole of the originally identified Important Bird Area

(IBA). It would appear that on this count, a satisfactory outcome has been achieved. The mission understands that this is also the European Commission's view.

In its **second finding**, the Court declared that Bulgaria had failed to fulfil its obligations under Article 4.4 of the Wild Birds Directive by approving three wind energy developments ("AES Geo Energy", "Disib" and "Longman Investment") within the part of the Kaliakra IBA that was at the time not included in the SPA but (according to the first finding above) should have been.

In an analogous way in its **third finding**, the Court declared that Bulgaria had failed to fulfil its obligations under Article 6.2 of the Habitats Directive 92/43/EEC by approving three wind energy developments ("Kaliakra Wind Power", "EVN Enertrag" and "Vertikal – Petkov") within the Kaliakra Complex Site of Community Importance (SCI, = candidate Special Area of Conservation, SAC) and the Kaliakra SPA, and by approving the golf and spa resort "Thracian Cliffs" within the Kaliakra Complex SCI and the Belite Skali SPA.

The original NGO complainants in the case have argued that a remedy for the failings identified in these second and third findings would be the physical removal of the (implemented) developments concerned. This is discussed further in section 4 of the present report below. The NGOs have further advocated a full assessment of the damage caused to conservation values in the area and the restoration of the habitats affected.

Measures agreed between Bulgaria and the European Commission in mid-2017 for responding to the judgement included a prohibition on future developments in the Kaliakra SPA, and on other activities deemed to have an impact on the "Ponto-Sarmatic steppe" habitat which was the main basis for nomination of the Kaliakra Complex SCI. Although described by the authorities in this way as a response to the judgement, it appears that the prohibition is in the National Renewable Energy Action Plan 2011-2020 and so was already in effect well before the Court gave its judgement.

The mission's consultations with stakeholders revealed some major dissatisfaction with the handling of the identification and designation of the European protected areas (SPAs and SACs, the "Natura 2000" sites under the two nature Directives) in this area. One aspect of reported concern is an alleged failure of the authorities to engage in adequate consultation with affected interests. The mission has not investigated specific documentary evidence on this issue.

A second area of reported concern relates to the quality of the scientific assessments used to validate the identification of sites and their boundaries. Landowners now included within the designated areas described to the mission (and in one case sought to illustrate in the field) instances where, in their view, degraded or otherwise clearly unqualifying areas had been included in the designations (and had thereby become covered by use restrictions). Although passionately expressed, the evidence provided to the mission thus far on this remains largely anecdotal, and the mission's remit does not extend to evaluating it scientifically. It is noted here as an issue for possible attention however, in recognition of the fact that the Bern Convention has an interest in its Emerald Network sites being correctly founded, and in EU countries the Emerald sites are based on the Natura 2000 network.

Local community representatives, landowners and the golf course operator expressed concern also about the allegedly draconian nature of the prohibition on activities and developments referred to above. In their view the prohibition covers more than it needs to for conservation purposes, and prevents almost any normal use of the land concerned. The golf course operator further suggested that restrictions were applied to the whole of a land ownership within which any Ponto-Sarmatic steppe occurred, rather than just to the area of the habitat itself. Again the mission has not been in a position to test the veracity of any of these claims and it can do no more than simply record them.

There was also a concern on the part of those windfarm operators who were covered by this regime as a result of their sites being in the area that should have been designated as SPA: they reported that they were aggrieved because at the time they pursued their developments there was no such designation in place. The mission was informed however that it is the general policy of the Bulgarian authorities that SPAs should be based on identified IBAs, and since the area had clearly been identified as an IBA (and its boundaries published) it should have been expected by all concerned that it would become designated as an SPA.

Some of the windfarm operators and other stakeholders making representations to the mission defended the propriety and legality of the actions they had taken. It was therefore necessary for the mission to emphasise that nothing in the ECJ judgement (nor anything in the Bern Recommendation No. 130) alleges anything improper or illegal about the actions of the operators: what the judgement addresses instead is the process of planning, assessment and approval undertaken by the statutory authorities. (There would however be scope for the operators to play a part in constructive responses to the judgement, for example by contributing to impact research and habitat creation).

The mission asked about the applicability of the prohibition referred to above to any activities for which consent application processes had already begun or where consent had been granted but not yet implemented. The NGOs stated that there were some proposals in this category but did not provide details of these; while the authorities stated that there were no proposals in this category.

What is undisputed is that this particular prohibition is linked to the National Renewable Energy Action Plan 2011-2020, and hence has effect only for a further two years. This is discussed further in section 7 below on future safeguards.

The measures agreed between Bulgaria and the European Commission also include the development of an "Integrated Management Plan" for the three Natura 2000 sites in the Kaliakra area. This has been stalled however, as described in section 8 below. A further measure was to be the finalisation and implementation of a species conservation action plan for the wintering population of the Red-Breasted Goose.

In its **fourth finding**, the Court declared that Bulgaria had failed to fulfil its obligations under Articles 4.2 and 4.3 of the Environmental Impact Assessment Directive 2011/92/EU, by failing to assess properly the cumulative impacts of the "Windtech", "Brestiom", "Eco Energy" and "Longman Investment" wind energy developments within the area that should have been included in the Kaliakra SPA; and also that it had failed to fulfil its obligations under Article 2.1 of the same Directive by approving the "Longman Investment" project without such an assessment.

This fourth finding could imply that more effective screening of projects for the application of EIA should take place in future, and that better provision should be made for proper assessment of potential cumulative effects of proposed developments. These aspects are covered in section 7 below.

The authorities were due to have a meeting in Brussels with the EC in the week following the mission to conclude discussions about measures being taken/to be taken in response to the judgement. No information is yet available on the outcome of this.

4. REMOVAL/RELOCATION OF TURBINES

Bern Recommendation No. 130 (2007) recommends the Bulgarian government to "investigate the possibility of relocating the windfarm projects already under construction as well as the single turbines (whose building is possible without EIA) in order to restore the integrity of sites to be considered as Natura 2000 sites, IBAs, or under other protection status" (paragraph 3); and in the issues that it recommends to be included in the development of guidelines (paragraph 10) it includes "measures for the removal of turbines in case of unacceptable bird collisions where no alternatives exist".

The complainant NGOs have consistently called for the physical removal of turbines from the protected areas, because they do not consider that scope exists for adequate mitigation or compensation; and they maintained this position during the mission. They also imply that the ECJ judgement should give rise to a more precautionary reading of the Bern Recommendation's "unacceptable collisions" criterion for removal referred to above, because the judgement relies on the existence of significant *risk* of harm (as opposed to proven actual harm). (Collisions of course are not the only potential conservation impact, as discussed further below).

Leaving aside the arguments about the scale of actual or potential impact, clearly now that more than 100 turbines are installed and operating within the Kaliakra protected areas, the cost implications of removal/relocation would be very significant. Interestingly however this was not the main objection raised to the idea by the authorities and the operators; and it was indicated that at least one operator (Kaliakra Wind Power/Mitsubishi) has an insurance policy that would protect it in this eventuality.

One main objection was that there was said to be no legal mechanism by which legal consent for construction/operation could be compulsorily overturned to achieve removal; suggesting therefore that it would have to be done voluntarily. (It was not clear what the normal operating life of each windfarm is expected to be, and this will no doubt vary, since different types of turbine are involved).

A second objection related to the feasibility of finding suitable alternative locations, and so far, no firm proposals have been identified in this regard. Factors to consider would obviously include situating in adequate wind flows and avoiding sensitive areas; but the main obstacle cited was the apparently inadequate capacity of the existing transmission grid infrastructure to accommodate new generators in much of the country. This latter point is disputed by the NGOs (see also 7.2 below), but it might anyway not necessarily be insoluble if a package of investment were to address both turbine construction and grid enhancements, but the exact implications of this have not been examined and the mission cannot comment on it further.

Perhaps a more practical line of thinking would be to consider what positive conservation measures could be implemented now to benefit migratory birds and habitats in the region, as a way of aiming partially to offset the risks and/or damage introduced by the completed developments, or in any event to contribute to agreed conservation priorities. A collective effort in this direction from the windfarm operators and the golf/spa business (for example through habitat restoration/creation and management) could be a constructive response to the situation as it now exists.

5. MONITORING AND ASSESSING THE IMPACTS OF EXISTING DEVELOPMENTS

Bern Recommendation No. 130 (2007) recommends the Bulgarian government to "assess the impact of the current operating turbines" (paragraph 5); and at its 35th meeting in 2015 the Standing Committee invited the authorities to "carry out a comprehensive, independent, and quality assessment of the impact of windfarm developments" in the areas concerned. This relates to evidence of actual impacts from construction and operation of the developments that have been built: it is therefore different from the discussion about assessing *potential* impacts through predictive environmental assessment processes (which is covered separately in section 7 below).

The Bulgarian government's report to the Standing Committee in 2017[3] indicated that "changes that have occurred in the sites since their designation" would be the subject of updated information, but no documented assessment of this has been provided to the mission. The 2015 request therefore remains outstanding and paragraph 5 of the 2007 Recommendation has not been implemented.

The windfarm operators undertake coordinated monitoring as part of the "Early Warning System" (EWS) described in section 6 below. This includes deploying one fieldworker to search, according to an accepted method[4], for corpses of birds and bats which may have been killed by colliding with the turbines. The results (including correction factors for e.g. assumed scavenging rates) are reportedly provided in monthly bulletins on the EWS website[5] (Bulgarian language only), but no documentary data or written findings of this work were provided to the mission.

In discussion however the mission was told that small numbers of dead birds and bats have been found, in the case of birds involving mainly resident species in the breeding season (such as skylarks, partridges, swifts and pigeons, but also at least one eye-witness account of a collision involving a migrating vulture). Figures cited for the St Nikola windfarm involve a total of some 120 individual birds of 30 species over 10 years. No collision mortality involving geese has been found, since the impact of turbines in their case rests more on displacement effects (see below).

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[3] Document T-PVS/Files (2017) 18.

[4] This was said to be "Morrison 1998". No source matching that reference can be traced, but it may refer to Morrison, ML & Sinclair, K (1998): Avian Risk and Fatality Protocol; *National Renewable Energy Laboratory, Golden, CO, USA. This is not one of the dozen or so mortality searching method references listed in the Bern Convention's Best Practice Guidance on windfarms and birds (Gove et al. 2013, see footnote 8 below). BSPB has significant reservations about the methods used at St Nikola, and following the mission they provided a written critique; but a commentary on the details of these methods is beyond the scope of this report.*

[5] https://kaliakrabirdmonitoring.eu .

Windfarms elsewhere are sometimes known to *attract* birds or bats (and thereby to increase collision risk), e.g. where vegetation changes attract insect prey, or lights on associated structures do likewise and/or disorient flying) – no evidence of this has been reported in the Kaliakra area windfarms, but neither does it appear to have been specifically tested here.

The key concerns expressed in relation to the impact of the Kaliakra area windfarms on geese (Red-breasted Goose *Branta ruficollis* and White-fronted Goose *Anser albifrons*) relate to avoidance behaviours and displacement or "barrier" effects, whereby the birds may fly higher or more lengthy routes (to avoid the turbines) than they would otherwise need to do, with consequences on metabolic energy demands and in turn potentially on survival rates and eventual breeding productivity. This would be a daily phenomenon for the over-wintering flocks which roost at sea and fly inland to feed each day. Displacement may also deny these wintering birds access to favoured feeding areas, with similar potential impacts on survival.

An EU-funded study in the Dobrudzha coastal area of Bulgaria in 2012-13[6] found evidence of fine-scale turbine-related displacement in the two goose species mentioned above, translating into a 6% loss of available feeding habitat. The European Court judgement has also acknowledged (paragraph 77) that research data show reduced use of the area by Red-breasted Geese. Power-lines had a greater effect, and during its visit the mission was informed that disturbance from sometimes intense hunting activity in the area was a complicating factor in interpreting goose feeding distribution (and that it has a "barrier effect" of its own, i.e. causing birds to fly higher). Nonetheless the turbine impacts revealed by this work constitute an appreciable component of a cumulative set of pressures on the birds.

Other research conducted in the framework of the same EU project, and cited in the NGO report to the 2017 Bern Standing Committee[7], appears to show the barrier effect being manifest for Red-breasted Geese at the EVN windfarm, with the geese there tending to fly significantly higher after construction compared with the heights recorded before construction (and compared with a no-turbine control site where no change was observed over the same period). The report also suggests an avoidance effect, based on geese being observed to fly at a height of 110-160m in the area of the EVN windfarm where the turbines are 80m high, and not to fly in the area of the AES Geo Energy wind farm where the turbines are 150m high (this analysis used data from the draft management plan for Kaliakra SPA, Belite Skali SPA and Kaliakra Complex SCI).

The mission was informed by BSPB representatives that numbers of wintering Red-breasted Geese had declined at Kaliakra in recent years whereas they had not done so in the other strongholds further north (Shabla and Durankulak); and that BSPB suspects that this is related to the presence of the windfarms at Kaliakra. Data on the numbers have not been provided to the mission and the causal link may be pure speculation; but given the high priority conservation status of this species, the issue would seem to merit urgent investigation. Comparison with trends for the White-fronted Geese could be important, since finding the same result for both species could help to corroborate the theory of a locally-based cause (as opposed to issues operating elsewhere in the range of the species).

The total land-take involved in the construction of the six operating windfarms (turbine base footprint, access tracks and other infrastructure) must be appreciable, but during the mission no particular emphasis was put on habitat damage from the windfarms (as opposed to that attributed to the golf course/spa development). The NGOs have subsequently indicated that there are some concerns about this, but details have not been provided. The windfarm operators considered that damage would have been minimised by making use of pre-existing tracks where those existed, and locating excavations for cable connections etc as far as possible along roadsides rather than through the centre of sensitive habitats.

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[6] Harrison AL & Hilton GM (2014): Fine-scale distribution of geese in relation to key landscape elements in coastal Dobrudzha, Bulgaria. Preliminary report, WWT, Slimbridge. Research undertaken as part of the EU LIFE-funded project "Conservation of the Wintering Population of the Globally Threatened Red-breasted Goose (*Branta ruficollis*) in Bulgaria"; LIFE09/NAT/BG/000230.

[7] Wind farms in Balchik and Kaliakra–Via Pontica (Bulgaria). Report by the complainant (Bulgarian Society for the Protection of Birds/BirdLife Bulgaria) to the 37th meeting of the Bern Standing Committee, 5-8 December 2017. Document T-PVS/Files (2017) 31.

The investment made by the operators in monitoring risks and impacts relating to turbine collisions is a positive step (see also section 6 below). It may be however that other impacts (displacement and barrier effects) are as significant, if not more so, to species of conservation concern (soaring migrants and wintering geese). The mission recommends the development of a broader regime for monitoring and assessment of potential impacts of the windfarms during their operation, which would, *inter alia*:

- address all types of potential impacts, including collisions, disturbance, displacement, barrier effects and habitat changes;
- include observations at both windfarm sites and comparable areas with no windfarm developments, so as to provide "control" comparisons;
- be coordinated across all the Kaliakra installations;
- be undertaken in conjunction with research by NGOs, supported by data-sharing agreements;
- take the opportunity to undertake related research where it would be appropriate and cost-effective to associate this with the field efforts already being made on monitoring and assessment;
- make information about the methods and systems used available in a form which would allow these to be replicated at other windfarm sites elsewhere;
- feed results and insights (through the authorities) into national processes for planning and assessment of future developments.

The reference to data sharing above links to concerns expressed forcibly during the mission about a general lack of openness and trust in relationships between the NGOs on the one hand and the windfarm operators and authorities on the other, even though all are attempting to study the same environmental questions. The mission well understands the long history of confrontation and tactical manoeuvring that forms the background to this, but considers that it is now an impediment to advancing good scientific understanding of the issues. It is to be hoped that a more forward-looking and constructive climate can prevail in future.

6. MITIGATION MEASURES

The *Best Practice Guidance on windfarms and birds developed in the framework of the Bern Convention*[8] *details a range of potential methods of reducing impacts, including by aspects of design, configuration, operation,* contingencies and bird deterrence (light, sound, markings, decoys, habitat management etc). The Convention's Standing Committee at its meetings in 2015 and 2016 emphasised the need for the Bulgarian authorities to ensure rapid implementation of appropriate and tangible mitigation measures in relation to the wind farm developments in the Kaliakra area. Recommendation No. 130 (2007) had also recommended that the Bulgarian government draw up mitigation measures (paragraph 10).

One measure addressed in some other windfarm developments is the alignment of turbine arrays to be broadly parallel to rather than perpendicular to the prevailing flight direction of migrating birds. The particular geography of Kaliakra makes this less relevant than at many other sites, because it is at a point on the flyway that has both east-west and north-south components.

Problems posed for birds at windfarms may relate to the associated electricity transmission infrastructure (powerlines) as much as to the turbines themselves. At Kaliakra almost all of the significant new infrastructure of this kind has been installed underground, and this can therefore be regarded as one key mitigation measure which has already been taken. Pre-existing other transmission lines and pylons do however still exist above ground, but whether these pose any significant problems is not known.

[8] Gove B, Langston RHW, McCluskie A, Pullan JD & Scrase I (2013). Wind farms and birds: an updated analysis of the effects of wind farms on birds, and best practice guidance on integrated planning and impact assessment. Document T-PVS/Inf (2013) 15 prepared for the Bern Convention by RSPB/BirdLife in the UK.

The other mitigation activity undertaken in the area consists of an integrated Early Warning System (EWS), which involves monitoring the movements of birds in the vicinity of the windfarms and shutting down turbines at times of highest risk. The mission was given a detailed explanation of this system during a visit to its control centre and to the field observation posts.

The EWS represents a significant investment by the windfarm operators in attempting to minimise the impact of their operations on wildlife. (Excluding the capital costs of equipment it is said to cost 150K Euros per year to run, and this is funded by the windfarms themselves). Begun initially at one windfarm, it has gradually embraced others, and since March 2018 it has been operating as a fully integrated joint system among all the operators of the installations in the area of the Kaliakra Natura 2000 sites. (The mission was informed that the SPA designation orders were due to be amended to make participation in the EWS a condition of continuing to operate turbines in the migration season). Similar systems are used at other sites in Europe, but this is believed to be the only one that operates on an integrated joint basis across multiple windfarms in this way.

The EWS functions with a combination of field observations of migrating birds (during daytime) and radar tracking (day and night). Three different radar systems are used in parallel; all developed specifically for bird tracking purposes. The most sophisticated one of these is capable of recording altitude as well as position and speed, leaves a trace of the route travelled by the birds, and distinguishes broad size categories and flock densities.

A team of between 2 and 7 ornithologists (depending on the season) monitors bird movements in the field. Each of them has a real-time link (via hand-held devices) to the radar information. Based on relative vulnerability of different species, weather conditions and other factors, a set of protocols are used to apply a risk scoring system to the evolving pattern of observed bird movements. When times of highest risk occur, the turbine operators are instructed to shut down either a single relevant turbine, a group of turbines or if necessary an entire windfarm. The turbines can be stopped in as little as 15 seconds.

A key part of this system is the authority assigned to the Senior Field Ornithologist to give a shutdown instruction directly to the turbine operators, and this cannot be countermanded by managers. All the operating companies have signed contracts guaranteeing the independence of the ornithologist in making these decisions, and if an operator refuses the instruction, the ornithologist can report this directly to the Ministry of Environment who can then order the entire plant to be shut down for the remainder of the season. Re-starting turbines after a risk-triggered shutdown is also done on the authority of the Senior Ornithologist. Instances of shutdown in these circumstances are tending to occur between 5 and 10 times each season (more often in autumn when bird movements follow a more concentrated pattern than in spring).

As a mitigation measure, the EWS with its the shutdown protocol is clearly only able to address the issue of potential impacts caused by turbine collisions, and it does not address the other (perhaps more significant) impacts discussed in earlier sections above. (It also does not address collision with static blades or turbine columns, which occurs occasionally at other sites and may do so here[9]). Nonetheless for the one issue it is an impressive response: experience in its operation could usefully be shared more widely, with a view perhaps to replication in other areas. (Its actual effectiveness is checked by means of the mortality monitoring described in section 5 above).

7. CONTROLS AND SAFEGUARDS ON FUTURE DEVELOPMENT, INCLUDING EIA/SEA

To begin at the strategic level, Bern Recommendation No. 130 (2007) recommends the Bulgarian government to conduct a Strategic Environmental Assessment (SEA) of Bulgaria's wind energy programme, taking into account possible conflicts with wild birds (paragraph 6). An SEA of the National Renewable Energy Action Plan was duly undertaken (as well as an Appropriate Assessment in the context of the EU Habitats Directive) and it was approved by the authorities in 2012. Arising from this, environmental measures and a monitoring plan were appended to the Plan. A web-link to the Plan was provided to the mission; but the final version with the appendices is available in the Bulgarian language only, and the mission has therefore not examined it.

[9] Gove *et al*. (2013), *op cit*.

The Environment Ministry has also developed a zoning map for wind energy generation, drawing on a project which included multiple stakeholders including BSPB, and it identifies nine regions of the country which have good potential for wind energy development in terms of adequate wind speeds, grid connections and low risks for birds. The mission was informed that it would be possible now to meet the national wind energy generation target wholly by undertaking any further developments in these low-risk areas.

At the project level, Bern Recommendation No. 130 (2007) recommends the Bulgarian government to ensure that new wind energy plants are not built in the [Balchik/Kaliakra] region unless Environmental Impact Assessments (EIAs) prove that they do not have a substantial negative effect on the biological diversity protected under the Convention (paragraph 1). It further urged that the quality of EIAs conducted to date needed to be improved, and that assessment findings should be independently peer-reviewed (paragraph 1). Paragraph 4 recommends the avoidance of sensitive locations for development, based on assessments that consider a range of important sensitivity factors; paragraph 8 recommends attention to potential impacts on sites arising from outside the sites, and paragraph 9 recommends that future improvements in EIAs for windfarms should include expanded baseline monitoring, proper validation of data, collision modelling, multi-criteria analysis, attention to cumulative effects and compulsory peer review. The 2016 ECJ judgement also comments on the cumulative effects aspect.

It would have been helpful if the mission had been provided with a specific update on the response to each of these points, but at least some aspects of progress can be noted. The Ministry of Environment and Water reported that they issued guidance in 2010 to the competent authorities for carrying out EIAs to take into account the relevant parts of Recommendation 130 (as well as those in Recommendation 117 of 2005). The Ministry also states that baseline monitoring of biodiversity precedes approval decisions, and that cumulative effects are now assessed (although how this is done was not explained). A further guidance document on windfarm development and risks to birds was issued in 2013, and another specifically on risks to Saker Falcons *Falco cherrug* was issued in 2014. While there are EIA quality checking criteria (in fact covering completeness rather than quality as such), there is currently no process of external peer review.

In the 2007 on-the-spot appraisal report and earlier Committee documents it was observed that under the then Environmental Protection Act, windfarm developments involving a total generation capacity of less than 5MW (1-3 turbines) were exempt from the requirement to undertake an EIA. There was considerable concern at the time about proposals being "salami-sliced" (subdivided) to evade this threshold. During the mission the Ministry stated that this exemption no longer applies: this appears to be a positive development; although the legal details have not been provided.

Bern Recommendation No. 130 (2007) recommends the Bulgarian government to review relevant decisions concerning wind energy plants (paragraph 1) and to reconsider the development of approved windfarm projects in the Balchik and Kaliakra region (paragraph 2). The authorities' answer to this point is that changes in 2012 to the Biological Diversity Act and the Environmental Protection Act introduced a five-year expiry period for all unimplemented decisions (a) approving an Appropriate Assessment under the Habitats Directive and (b) declaring that a project EIA is not required. While this may not be a complete answer in relation to consents where development did proceed, all relevant consents in cases where it did not proceed have reportedly now expired under this five-year rule, and they would in future (if re-proposed) not be consented again because of the other new safeguards described below.

Recommendation No. 130 (2007) recommends the Bulgarian government to establish a strict moratorium on further turbines and windfarm projects in the coastal areas of Bulgaria until relevant EIA and SEA reports are completed (paragraph 7); and the Standing Committee in 2016 invited the authorities to "implement strict control over additional developments in the region".

One response to this has been a provision in the National Renewable Energy Action Plan 2011-2020 which reportedly excludes the construction of any further wind energy developments (whether wind farms or single turbines) in Natura 2000 sites, in buffer zones (ranging from 2 to 6 km in width) around these sites, in the Dobrudja region as a whole and in some other named localities. It does not apply to candidate Natura 2000 sites which are awaiting designation; although the mission was

informed that there are now few such situations in Bulgaria. A new Renewable Energy Plan for the next period from 2020 is in the early stages of preparation; and it would seem vital for the protective exclusions to be taken forward (enhanced if necessary) into this new plan.

A second level of safeguard is provided in the individual Ordinances by which each Natura 2000 site is designated under the Bulgarian Biodiversity Act. The mission has not seen examples of how these Ordinances are framed, but the Ministry states that they all include a prohibition on wind energy developments within the sites. In the case of the Kaliakra Complex SAC, this site was from mid-2017 covered on an interim basis by a temporary Order which prohibited construction (and certain other potentially damaging land use change activities) for a two-year period (in the expectation that designation would by then have taken place, which it has now done).

The regimes for EIA and Appropriate Assessment referred to above include a step which checks the applicability of the restrictions described above to the activity/location concerned, and if they do apply in a given case, the assessment in such a case would be terminated.

A third component, in this case a deterrent rather than a safeguard, relates to the reported ending of state subsidies for windfarm developments in sensitive locations. The NGOs had advocated the withdrawal of such subsidies, which they say were still being offered even after the issuing of the ECJ's judgement. The mission does not have precise details of the current situation, but was informed in general terms by the authorities that state aid is no longer offered where sensitive locations are involved, and that this is likely to be sufficient to deter investors from backing proposals (or to deter operators from activating any existing consents within their five-year validity period) in such locations. Once the national renewables target is met, all state aid for windfarms, irrespective of location, will apparently be discontinued. The NGOs dispute this account, saying that favourable electricity prices are still paid and that this constitutes an on-going subsidy.

In summary therefore, the regimes for SEA and EIA have advanced in some positive ways, although questions remain about aspects of the Bern Recommendation on this, notably those concerning cumulative effects and peer review. Several forms of safeguard for important sites against damage by wind energy developments are now in effect, as described above:

- Expiry of unimplemented earlier consents after five years;
- A two-year prohibition in the Renewable Energy Plan (raising a question however about what will happen after 2020);
- Prohibitions in the individual site designation Ordinances (and in an interim one for the Kaliakra Complex SCI prior to its designation);
- Discontinuance of state subsidy for relevant developments (although perhaps not for operation – see 7.11 above).

8. AN INTEGRATED MANAGEMENT PLAN FOR THE THREE NATURA 2000 SITES

In 2016, the Ministry of Environment and Water proposed that one of the measures it would develop as part of its response to the judgement in the ECJ case (see section 3 above) would be a 10-year Integrated Management Plan (IMP) covering the Kaliakra Complex SCI and the Kaliakra and Belite Skali SPAs. The IMP would embrace the Early Warning System for migratory birds (see section 6 above), conservation of steppe habitats, establishing of a management authority, training and information activities, and implementation of a Red Breasted Goose Conservation Action Plan.

A draft of the IMP was developed in March 2017, and the Bern Convention Bureau made a specific request to Bulgaria for an update on its progress and on the contribution it was expected to make to the fulfilment of the points in Recommendation No. 130 of 2007. The draft, and the planned public consultation process, proved highly contentious, with conservation NGOs and local communities each asserting that their respective interests were poorly catered for. Protest demonstrations caused public hearings to be suspended, and following further deliberations at national level, work on the IMP itself was discontinued.

In these circumstances the authorities requested deletion of the IMP from the Terms of Reference of the present mission. The question that remains therefore is whether there are elements of the

originally intended scope of the IMP that were being relied upon as a response to the ECJ judgement and to the Bern Recommendation, and which should now be achieved in other ways. In the mission's view perhaps the main one of these is the Red Breasted Goose Conservation Action Plan, and it is presumed that this can/should be progressed in any event in its own right.

9. TRANSPARENCY AND STAKEHOLDER INVOLVEMENT

This section of the report is included principally because of a specific invitation given to the Bulgarian authorities by the Bern Standing Committee in 2016 to "ensure all procedures taking place at national level in relation to the implementation of the ECJ's ruling are transparent and inclusive of all stakeholders".

The Bulgarian government's report to the Standing Committee in 201710 indicated that one of the key mechanisms for ensuring "public engagement and active involvement of stakeholders" would be the management authority to be established under the Integrated Management Plan (IMP) for the three Kaliakra Natura 2000 sites. Since the prospects for the IMP are now in some doubt, as explained in section 8 above, it is for consideration whether the management authority, or some other method for ensuring stakeholder engagement, can now be progressed in a different way, de-coupled from the IMP as such.

The mission heard representations from various groups complaining that they had not been sufficiently consulted or involved in the planning and designation processes associated with conservation and development activities in the Kaliakra area (and beyond it). Given the general democratic and participatory ethos of the Bern Convention this is noted as a concern; but it is not the mission's role to go into specific local remedies for it.

What will be recalled here however is the point made in section 5 above about scientific research and analysis information, and the hope that a past (and current) climate of suspicion and territoriality might give way to a different climate of mutual problem-solving and open data-sharing. The operators of the Kaliakra Early Warning System have taken steps towards this by publishing monitoring data on their website, and further trends in this direction (on all sides) are to be encouraged.

10. GUIDANCE AND CAPACITY BUILDING

Bern Recommendation No. 130 (2007) recommends the Bulgarian government to develop guidelines for planning wind energy developments that take account of biodiversity conservation concerns; to include the role of the precautionary principle, removal of turbines when unacceptable bird collisions occur and no alternative exists, mitigation and compensation for biodiversity losses, capacity building (on controlling the ecological effects of turbines) and investigation of social impacts including on recreation and tourism (paragraph 10).

The authorities cite several steps taken in this direction, including the following:

- Production of a guide on methods for evaluating the quality of environmental impact assessments relating to projects potentially affecting bats and their habitats (2008), including a section on windfarms and relevant mitigation options.
- Production of guidance for regional environment inspectorates on methods for examining proposals for renewable energy projects (2010), to assist them in overseeing EIA and Appropriate Assessment processes.
- Production of a guide on risks to birds associated with windfarm developments (2013).
- Production (by BSPB and others in the framework of an EU LIFE-funded project) of guidelines for evaluating windfarm development proposals in relation to potential impacts on Saker Falcons Falco cherrug (2014).

Although the mission has not assessed the quality of any of these documents, their production is deemed to be a positive response to paragraph 10 of the Bern Recommendation. It is not clear whether or to what extent the aspects mentioned in the Recommendation relating to precaution,

[10] Document T-PVS/Files (2017) 18.

compensation, capacity building and social impacts may have been addressed, but if they have not been, any future updating of the guidance should ensure that all of these issues are fully covered.

The mission saw no evidence that the Bern Convention's own extensive guidance on the subject[11] was being used in Bulgaria, and it was not mentioned by any of the consultees. This is unfortunate, and it would be valuable for that document to be more actively promoted amongst all concerned (including, if resources can be found for this, by translating it into the Bulgarian language). Active steps for building skills and capacity in this subject area were also not apparent (although they may exist); and this could be another topic for useful attention in future. (It was noted that the field observer element of the EWS, discussed in section 6 above, represents an important capacity building element of that programme).

There was furthermore no evidence of existing international guidance and standards on EIA and SEA being used in the Bulgarian system (apart from the mandatory requirements of the EU regime). The mission encouraged the authorities to have regard to (and benefit from) the guidance and standards agreed (by Bulgaria, among others) in international fora such as the Conventions on Biodiversity[12], Wetlands[13] and Migratory Species[14], and the advice made available through organisations such as the International Association for Impact Assessment[15] and the Commission for Environmental Assessment in The Netherlands [16].

The mission considers that capacity building might provide an attractive focus for a proposal for an externally-funded project, to the benefit of all, on knowledge exchange and best practices in the field of assessing impacts (including cumulative impacts) of wind energy developments on wildlife, and on managing wind energy installations with minimal impact through appropriate mitigation strategies.

11. OVERVIEW OF THE RESPONSE TO BERN RECOMMENDATION NO. 130 (2007)

As mentioned in section 1 above, one of the objectives of the mission was to review the progress made so far by the Government of Bulgaria in response to Bern Convention Recommendation No. 130 (2007). This has been done in a topic-by-topic way under the foregoing themed sections of this report, citing the relevant paragraphs of the Recommendation in the context of each topic. The purpose of the present section is simply to give a brief resumé of the situation that this reveals.

Overall it would appear that aspects of Bulgaria's planning, environmental assessment and decision-making processes in relation to coastal wind energy developments in the past have been extremely problematic; but that much has been done in recent years to improve the approach. There are those of course who will argue that this comes too late to avert the damage that has already been done; but the scale of that damage is itself very far from clear – it may be large or small, and perhaps only much longer-term wildlife population trend analyses, and clearer ways of attributing cause to effect, will give an accurate answer.

Concerning the review and reconsideration of consent decisions (Recommendation paragraphs 1-2), there is disagreement about the extent to which this has been done, but as an area of action, the mission considers that it has now become superseded by other more forward-looking action areas.

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[11] Gove *et al*. (2013), *op cit*.

[12] Convention on Biological Diversity (2006). Impact assessment: voluntary guidelines on biodiversity-inclusive impact assessment. COP 8 Decision VIII/28. Adopted by the 8th meeting of the Conference of Parties, Curitiba, Brazil, 20 - 31 March 2006.

[13] Ramsar Convention (2008). Environmental Impact Assessment and Strategic Environmental Assessment: updated scientific and technical guidance. COP 10 Resolution X.17. Adopted by the 10th meeting of the Conference of Parties, Changwon, Republic of Korea, 28 October - 4 November 2008.

[14] Convention on the Conservation of Migratory Species of Wild Animals (2002). Impact Assessment and Migratory Species. COP 7 Resolution 7.2. Adopted by the 7th meeting of the Conference of Parties, Bonn, Germany, 18 - 24 September 2002.

[15] http://www.iaia.org/ .

[16] http://www.eia.nl/en .

Concerning the investigation of options for relocating already constructed windfarms (paragraph 3), the mission itself has reviewed this question, and considers that (a) it should not be ruled out, given for example that mooted objections such as inadequate grid capacity at alternative locations are not necessarily insoluble if sufficient infrastructure investment is made; but (b) it may not be the most practical solution at this stage, and that options for creating carefully validated offsetting conservation gain instead (e.g. through habitat creation/restoration and management investments, designation of additional protected areas, etc) would merit serious investigation.

Concerning the improvement of EIA practices (e.g. greater precision and scientific rigour, mandatory peer review of findings, further research on impacts and long-term monitoring of impacts, use of collision risk modelling, consideration of cumulative effects and use of multi-criteria analysis to assess location suitability) (paragraphs 1 and 9) - this is a mixed picture, with some advances noted, and other areas that appear still to be open to improvement (notably perhaps those concerning cumulative effects assessment and peer review).

Concerning the making of consents conditional on a favourable EIA finding (paragraph 1), in principle this is provided for by the way the EIA system is now operated; although each individual decision will need to ensure it upholds this principle.

Concerning the undertaking of a Strategic Environmental Assessment of Bulgaria's windfarm programme (paragraph 6), while there may be differing views about the quality and completeness of this, it was duly undertaken and completed in 2012.

Concerning the assessment of the impact of currently operating installations (paragraph 5), it appears that turbine collision mortality impacts are being fairly well monitored, but that potentially more significant impacts (for some species) involving displacement and barrier effects would merit more focused study; acknowledging at the same time that factors such as hunting disturbance may complicate the picture. More open sharing of scientific research intelligence on these issues (by the NGOs in particular) would be helpful.

Concerning planning and decision-making on new wind energy developments, including taking into account the use of appropriate data for selecting locations and avoiding sensitive sites (paragraph 4), halting further coastal region consents pending impact studies (paragraph 7), considering impacts on adjacent areas (paragraph 8), and developing guidelines on (inter alia) the use of the precautionary principle, mitigation and compensation, capacity building and social impacts (paragraph 10) - some significant progress has been made in applying prohibitions on development in the most vulnerable areas, and in producing relevant guidance. There are a number of instances where e.g. temporary protections need to be rolled forward and/or robustly defended in the face of challenge, and some potential loopholes (e.g. flaws in designation boundaries) may need closer analysis. There is good scope for further enhancing guidance materials and promoting their wider accessibility.

12. RECOMMENDATIONS FROM THE MISSION

The following ten recommendations do not purport to define all the areas of activity that may be expected or desirable on the issues covered by this report: they focus instead on a few main priorities for attention in the coming 12 months.

(i) The comprehensive independent assessment of the impact of operational windfarms in the Kaliakra area which was recommended by the Bern Standing Committee in 2015 (amplifying paragraph 5 of Recommendation No. 130 of 2007) should be undertaken without delay, according to scientifically appropriate methods to be agreed in advance. It should include information from the current collision mortality monitoring but should also address other impacts such as displacement, barrier effects, disturbance and habitat change; and it should arrange to draw on collaborative sharing of information between windfarm operators, regional authorities, NGOs, academic researchers and others. An interim report of the results should be transmitted to the Bern Convention Bureau before February 2019, and a final report before August 2019.

(ii) A broader regime for on-going monitoring and assessment of potential impacts of the Kaliakra area windfarms during their operation should be developed, ensuring that it inter alia:

- follows scientifically appropriate methods agreed in advance;
- addresses all types of potential impacts, including collisions, disturbance, displacement, barrier effects and habitat changes;
- includes observations at both windfarm sites and comparable areas with no windfarm developments, so as to provide "control" comparisons;
- is coordinated across all the Kaliakra installations;
- is undertaken in conjunction with research by NGOs, supported by data-sharing agreements;
- takes the opportunity to undertake related research where it would be appropriate and cost-effective to associate this with the field efforts already being made on monitoring and assessment;
- makes information about the methods and systems used available in a form which would allow these to be replicated at other windfarm sites elsewhere;
- feeds results and insights (through the authorities) into national processes for planning and assessment of future developments.

(iii) Windfarm operators and other land owners, managers and authorities should explore options for creating conservation gains for migratory birds and habitats in or around the Kaliakra area (e.g. through habitat creation/restoration and management investments, designation of additional protected areas, etc), as a way of aiming partially to offset the risks and/or damage introduced by the completed windfarm developments, and/or in any event to contribute to agreed conservation priorities.

(iv) The conservation impact achieved by measures undertaken in response to recommendation (iii) above should be thoroughly evaluated, and if judged in any way to be less successful than hoped, or if the exploration of options itself has not advanced significantly within one year of the date of the present report, then alternative options for removal of existing operational wind turbines from Kaliakra should be investigated and implemented as appropriate.

(v) The successor plan to the Bulgarian National Renewable Energy Action Plan 2011-2020 should re-confirm (and enhance where necessary) the latter's prohibition on wind energy developments in sensitive locations.

(vi) The Bulgarian authorities should provide the Bern Convention Bureau with a short report by September 2018 on the specific ways in which the legal provisions, policy requirements, standards, established practices or other aspects of environmental assessments (SEA/EIA/AA) in Bulgaria meet each of the individual points in paragraphs 1, 4, 8 and 9 of Recommendation No. 130 (2007) or will do so in future (with an indication of the expected timeframe), giving particular attention to the points in the Recommendation concerning cumulative assessment and peer review.

(vii) The Bulgarian authorities should promote the dissemination (including translation where necessary) and use within the country of the guidance on windfarms and birds developed under the auspices of the Bern Convention (Gove et al. 2013), and the international standards and best practice guidance on EIA/SEA adopted under the Conventions on Biodiversity, Migratory Species and Wetlands, together with related materials produced by the International Association for Impact Assessment.

(viii) Options should be explored for developing a proposal (which could be submitted to potential funders) for a project to build enhanced capacity in Bulgaria on knowledge exchange and best practices in the assessment and management of wind energy impacts on wildlife.

(ix) The Conservation Action Plan for the Red Breasted Goose population in Bulgaria should be funded and implemented without delay, and periodic summary reports on its implementation should be transmitted to the Bern Convention Standing Committee, beginning with a first report in November 2018. Those responsible for the Plan should ensure that thorough and coordinated

monitoring of the species' population status and trends receives sustained high priority attention.

(x) The findings of this on-the-spot appraisal should be shared with the Secretariats of the AEWA and Eurobats Agreements, the Convention on Migratory Species and the European Commission, given that all of these bodies have shared interests in the issues it covers.

The **monitoring plan** for the implementation of these recommendations consists of scheduled reviews by the Bern Convention Bureau and Standing Committee, in advance of which the Bulgarian authorities are requested to submit a progress report on each of the points above, beginning as follows:

Meeting date	Progress report to be submitted by
2nd Bureau - 10-11 September 2018	31st August 2018
38th Standing Committee 27-30 November 2018	20th October 2018
1st Bureau 2019 – March 2019	28th February 2019
2nd Bureau 2019 – September 2019	31st July 2019
39th Standing Committee 2019	20th October 2019

The mission invites the Standing Committee to consider, and if appropriate to resolve at its 38th meeting in November 2018, that if the reports referred to above provide evidence of appreciable progress in respect of the implementation of the recommendations detailed above, taken together with the progress to date on Recommendation No. 130 (2007) as recorded in the present report, then potential closure of the file in Case No. 2004/2 might be contemplated at the Committee's 39th meeting in 2019.

ANNEX 1: PROGRAMME AND PARTICIPANTS

Programme

MONDAY, 14 MAY 2018	
	Arrival in Varna
TUESDAY, 15 MAY 2018	
09h00 – 10h30	Meeting with representatives of the Ministry of Environment and Water and the Regional Inspectorate of Environment and Water – Varna
10h30 - 13h30	Meeting with all stakeholders (including representatives of the Ministry of Energy, Ministry of Agriculture, Food and Forestry, respective local Municipalities, Bulgarian Society for the Protection of Birds and other NGOs, representatives of the scientific community, representatives and owners of windfarms)
15h00 – 16h00	Meeting with representatives of the Bulgarian Society for the Protection of Birds
16h00 – 17h30	Discussion with representatives of the authorities – addressing of issues raised by the stakeholders in the previous session
18h00 – 19h00	Debriefing of the OSA mission team
WEDNESDAY, 16 MAY 2018	
08h30 – 16h30	Travel and visit to sites in Kaliakra region: Kavarna – Bulgarevo – Sveti Nikola – Hadji Dimitar, existing windfarms; and site of Thracian Cliffs golf resort and spa.
17h00 – 18h00	Debriefing of OSA team on results of mission and planning work ahead
18h00 – 19h00	Return to Varna. Departure of DEP.
THURSDAY, 17 MAY 2018	
	Departure of GS.

Participants

- ***OSA Mission team:***

  Mr Dave Pritchard, Independent expert mandated for the mission
  Mr Gianluca Silvestrini, Head of Major Hazards and Environment Division, Council of Europe

- ***National authorities:***

  Mr Valeri Georgiev, Bern Convention Focal Point for Bulgaria, Ministry of Environment and Water
  Mr Miroslav Kalugerov, Director of the "National Nature Protection Service" Directorate
  Mr Nikolay Nedyalkov, Consultant for the Ministry of Environment and Water

- ***Complainant:***

  Mr Mihail Iliev, Bulgarian Society for the Protection of Birds
  Ms Irina Mateeva, Bulgarian Society for the Protection of Birds
  Mr Petko Tsvetkov, "For the Nature" Coalition, Bulgaria Biodiversity Foundation

- ***Other stakeholders:***

  Ms Svetlana Andonova, Shabla Black Sea Coast Nature Preservation Initiative Committee
  Ms Gergana Dimitrova, Thracian Cliffs Golf Shabla Resort
  Ms Stela Docheva, Regional Inspectorate of Environment and Water
  Ms Hristina Genova, Regional Inspectorate of Environment and Water
  Ms Galya Kambarova, Shabla Municipality
  Mr Dimitar Kanariev, Bulgarian Black Sea Coast Association
  Mr Petar Kostadinov, EVN Kavarna

Ms Maria Minova, Ministry of Energy
Mr Ilia Petkov, Long Man Investment Ltd
Mr Krasimir Petkov, Vertical Petkov
Ms Elitsa Petrova, Kavarna Municipality
Mr Dimitar Pilchev, DICIB Ltd / WINDEX Ltd
Ms Elena Popova, Long Man Energy Ltd
Mr Fini Stamenov, BES
Ms Gabriela Todorowa, BGBEA
Ms Radostina Yanakieva, WP St. Nikola
Mr Valentin Yanchelov, EVN Kavarna
Arh Kamen Zheynov, Chief Architect, Kavarna Municipality

Acknowledgements

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ANNEX 2: TEXT OF RECOMMENDATION NO. 130 (2007)

Convention on the Conservation of European Wildlife and Natural Habitats
Standing Committee

Recommendation No. 130 (2007) of the Standing Committee on the windfarms planned near Balchik and Kaliakra, and other wind farm developments on the Via Pontica route (Bulgaria)

(adopted by the Standing Committee on 29 November 2007)

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 flora and fauna and their natural habitats;

Pointing out that Article 1, paragraph 2, of the Convention calls on the Parties to give particular emphasis to endangered and vulnerable species, including endangered and vulnerable migratory species;

Pointing out that, in pursuance of Article 3, paragraph 2, of the Convention, "Each Contracting Party undertakes, in its planning and development policies and in its measures against pollution, to have regard to the conservation of wild flora and fauna";

Recalling that Article 4 of the Convention stipulates that "Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild flora and fauna species, especially those specified in Appendices I and II, and the conservation of endangered natural habitats";

Recalling that Article 4 of the Convention also stipulates that "The Contracting Parties in their planning and development policies shall have regard to the conservation requirements of the areas protected under the preceding paragraph, so as to avoid or minimize as far as possible any deterioration of such areas";

Recalling that Article 4 of the Convention further stipulates that "The Contracting Parties undertake to give special attention to the protection of areas that are of importance for the migratory species specified in Appendices II and III and which are appropriately situated in relation to migration routes, as wintering, staging, feeding, breeding or moulting areas";

Referring to the other provisions of the Convention relating to the protection of habitats and the conservation of species;

Recalling its Recommendation No. 117 (2005), adopted on 1st December 2005, on the plan to set up a wind farm near the town of Balchik and other wind farm developments, on the Via Pontica route (Bulgaria);

Drawing attention to its Recommendation No 109 (2004) on minimizing adverse effects of wind power generation on wildlife;

Referring to BirdLife International's 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" [document T-PVS/Inf (2003) 12];

Recognising the value of wind power and other renewable sources of energy in the fight against climate change;

Recognising the value of SEA/EIA and policy guidance to provide certainty to investors and industry, and protection for the environment, including biodiversity;

Recognising the importance of the Bulgarian Black Sea coast as a part of the Via Pontica migration route of major global importance for birds breeding in at least 17 European countries;

Aware that within this area there are a number of key areas where migrating birds concentrate and the sitting of wind farms in these locations is likely to be particularly problematic;

Further aware that the first wind farm developments along this coast will set a precedent for future developments;

Referring to Mr Eckhart Kuijken's report (document T-PVS/Files (2007) 27) on wind farms in Balchik and Kaliakra in Bulgaria, drawn up following meetings with the Bulgarian authorities and interested stakeholders and a site visit, and its concern that risks to migratory and resident species may be significant, especially given the ecological importance of Via Pontica as an internationally recognised long-distance migration corridor;

Noting with concern that the report found that the decisions seem to have been based upon incomplete or partial information brought together in EIAs that minimise the likely effects of windfarms at the very core areas of mass migration, contrary to the results of more detailed ornithological monitoring during longer periods;

Further noting with concern its findings as to the significant ecological problems that development of windfarms at Balchik and Kaliakra is likely to cause, given the presence of precious steppe vegetation in most current and future windfarm locations, and the specific topography and landscape structure, including cliffs and bare steppe plateaus, suitable for migrating soaring birds;

Aware that information from NGOs and investors was available for consideration as part of the analysis of this case;

Emphasising the need, before any decision within the SEA and EIA processes in taken, to carry out sufficiently thorough and detailed studies to inform the selection of wind farm sites;

Considering that the sites in Balchik and Kaliakra are important for the implementation of the Natura 2000/Emerald Networks;

Recommends the Bulgarian Government to:

1. review relevant decisions, at the local, regional and national level, concerning wind energy plants and ensure that new plants are not built in the region unless Environmental Impact Assessment (EIA) prove they do not have a substantial negative effect on the biological diversity protected under the Convention - EIA reports should be more precise and scientifically sound than those already presented and should formulate independent peer reviewed conclusions;

2. fully reconsider the development of approved windfarms projects in the Balchik and Kaliakra region situated within or nearby sites designated as important bird areas and special areas of conservation;

3. investigate the possibility of relocating the windfarm projects already under construction as well as the single turbines (whose building is possible without EIA) in order to restore the integrity of sites to be considered as Natura 2000 sites, IBAs, or under other protection status;

4. select alternative locations for future and not yet operating turbines based on appropriate data (including long-term monitoring of biodiversity) and assessments (e.g. using multicriteria-analysis); key bird areas, potential SPAs, IBAs, intensive bird migration corridors and sites regularly used by large flocks of roosting species such as storks and wintering geese must be avoided from windfarm development;

5. assess the impact of the current operating turbines;

6. conduct an Strategic Environmental Assessment (SEA) of Bulgaria's wind energy programme, taking into account possible conflicts of wind energy production within the most intensive bird movements areas, in particular along the Black Sea coast;

7. establish a strict moratorium on further turbines and windfarm projects in the coastal areas of Bulgaria until EIA and SEA reports mentioned in paragraphs 1 and 6 are completed;

8. respect the need to focus on the avoidance of the impacts coming from outside having negative effects on areas of recognised conservation importance;

9. take into account the following guidance to improve EIAs for future and not yet operating turbines, including in accordance with "Regulation about the conditions and the order for accomplishment of assessment for compatibility of plans, projects, programmes and investment intentions with the subject and the aims of the conservation of protected zones":

- further research and monitor birds, bats, other fauna, vegetations and key landscape-ecological structures and processes influencing biodiversity; to this end long-term monitoring of flora and fauna, review and validation of all data is required, included those from NGOs, institutes and independent scientists;
- apply collision modelling of cumulative effects of several wind farms or turbines along intensive flyways, followed by the assessment of the suitability of localities using multicriteria-analysis methods;
- develop compulsory procedures to peer review the completeness and quality of biodiversity chapters of EIAs and their conclusions before continuing the administrative and legal processes;

10. develop guidelines for appropriate planning of the construction of windfarms and/or individual turbines, taking account of the following issues in order to integrate biodiversity conservation concerns:

- initiate a broad debate on the precautionary principle regarding development projects in relation to sites with outstanding biodiversity values;
- take measures for the removal of turbines in case of unacceptable bird collisions where no alternatives exist; this require the drafting of a set of mitigating and compensatory measures when biodiversity losses occur;
- promote capacity building for specific and independent control of the ecological effects of turbines (in terms of experienced staff, equipment, legal base, cooperation with other institutions and NGOs, appropriate procedures, etc);
- to consider and properly investigate the social impacts of windfarms on local population and on the loss of nature and scenery as a significant source of recreation and eco-tourism.