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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee
27th meeting

Strasbourg, 26-29 November 2007

On-the-spot appraisal
Wind farms in Balchik and Kaliakra – Via Pontica
(Bulgaria)

Report of the on-the-spot appraisal
(20-22 June 2007)

Document presented by
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I. INTRODUCTION AND PROGRAMME

At the request of the Bern Convention Standing Committee (letter of 11 May 2007 signed by Eladio Fernandez-Galiano, Head of the Biological Diversity Division Unit of the Council of Europe, DG IV) we carried out the on-the-spot appraisal in Bulgaria from 20-22 June 2007 to analyse the situation concerning the project of wind farms in Balchik and Kaliakra located on the *Via Pontica* bird migration corridor.

This controversy between energy production and ecological values along the Black Sea coast exists since 2002 and has been subject of different actions in the framework of the Bern Convention, the Convention on Biological Diversity and the European Bird and Habitats directives. On 30th of November 2006 the Bern Convention on European Wildlife and Natural Habitats 'opened a file' on the case of wind farm development in Balchik and other locations on the *Via Pontica*, which is the important bird migration route along the Bulgarian Black Sea coast.

Conclusions of the Bern Convention Standing Committee Meeting November 2006:

This case concerns the building of the first windfarm in Bulgaria, at Balchik on the Black Sea coast, and located on the *Via Pontica* which is one of the most important migratory routes in Europe, especially for soaring birds. The decision to authorise the project has already been taken.

An on-the-spot visit was carried out in September 2005. The Committee adopted Recommendation No. 117 (2005). In this Recommendation, the Committee asked the Bulgarian government to reconsider its decision to approve the proposed wind farm in Balchik. In 2006, the Bulgarian government informed the Secretariat that it did not intend to review the decision approving the wind farm project.

The Secretariat received information from NGOs on a similar case involving plans to build 129 windmills 20 kms away from Balchik, between the town of Kavarna and the Kaliakra Cape. At its meeting in September, the Bureau proposed that the Standing Committee opens a new file on these windfarm developments in Bulgaria.

The Bulgarian Delegate said that the decision as taken was legally unassailable. She pointed out that building work had not yet begun as a fresh appeal had been submitted concerning the sale of land. She added that EIAs were compulsory in the case of all proposals for investment in potential Natura 2000 sites.

The BirdLife representative, supported by the representative from AEWA, stressed that the wind farm represented a considerable risk to birds and that the authorisation procedure was still in hand. She invited the Committee to send the Government a clear message to:

- Reconsider, in line with the recent Bulgarian Ministerial statement to the European Parliament, consents for wind farms at Kaliakra and Balchik;
- Suspend the construction of the wind farms pending new and adequate EIAs;
- Ensure approval of EIAs by technical experts as well as the Ministry of Environment's legal department;
- Introduce a moratorium on consents for further wind farms in Natura 2000/Emerald Network sites pending ecological assessment of the national long-term programme for encouragement of renewable energy resources 2004-2015;
- Advise that these wind farm developments may be a bad investment; if the European Court of Justice rules against them in these Natura 2000/Emerald network sites, they may have to be removed.

And to ask for information about:

- The consequences of the expiry of the authorisation granted for Balchik;
- The date scheduled for the workshop on the ecological requirements to be fulfilled for building windfarms.

She suggested that an on-the-spot appraisal should be organised.

The AEWA representative said that the Bulgarian Government was in breach not only of the provisions of the Bern Convention but also of the CMS, Eurobats and the EU Directives, and that it was hampering the efforts of other countries to achieve the 2010 target. He requested the opening of a new file.

This proposal was seconded by the Eurobats and AEWA representatives.

The Chair described the situation as very disturbing. A meeting might be organised between the parties involved under the auspices of the conventions and other relevant agreements. The committee took note of these different statements and pronouncements, and instructed the Bureau to study, together with the Bulgarian Government, the possibility of organising such a meeting.

On a motion from the Icelandic delegate, backed by the delegate of the European Commission, the Standing Committee decided to open a new file.

Terms of reference for the on-the-spot appraisal in Bulgaria 2007:

The purpose of the expertise was to

1. Examine the wind farm projects in Balchik and Kaliakra and their status
2. Examine the current situation in Balchik and Kaliakra in the context of activities, reports and recommendations that the Bern Convention has addressed to Bulgaria since 2005 concerning Balchik and which also refer to other wind farm projects in the Via Pontica, including Kaliakra.
3. assess the impacts of the projects on Bern Convention's fauna and flora species and their habitats
4. Discuss with relevant authorities at the national, regional and/or local level, and concerned NGOs
5. Make appropriate recommendations to the Standing Committee of the Bern Convention

The expert must submit a short written report to the next meeting of the Standing Committee of the Bern Convention to be held in Strasbourg in November 2007.

The task was carried out as follows

- | | |
|----------|--|
| 20.06.07 | Arrival Sofia 13.30h
Meeting at the Cabinet of the Minister of the Environment and Waters,
Mr Jordan Dardov (chair: chief of Cabinet Mrs Elisveta Petrova) |
| 21.06.07 | flight from Sofia to Varna
Meeting in Regional Inspectorate of Environment and Water - Varna
(chair: Mr Sinan Mehmed) |
| 22.06.07 | full day site visits Balchik and Kaliakra
Closing discussions in Regional Inspectorate of Environment and Water – Varna
(chair: dept. Minister of Environment)
Evening closing dinner |
| 23.06.07 | private excursion from Varna to Rumanian border along the Black Sea coast;
visits to future windfarm localities, nature reserves and Natura 2000 sites. |
| 24.06.07 | return flights Varna-Sofia, Sofia Brussels |

During the site visits and meetings we were accompanied by Mrs Carolina Lasén-Díaz from the Bern Convention Secretariat, who also prepared the contacts and collected most relevant information and reports.

Mr Bert Lenten, Executive Secretary of the African-Eurasian Migratory Waterbird Agreement (AEWA) represented the Secretariats of AEWA, CMS (Convention on Migratory Species) and Eurobats (Agreement on the Conservation of European Populations of Bats).

We like to sincerely thank the organizers of the visit, especially Mrs Rayna Hardalova (MOEW, National Office for Nature Protection, Sofia) and Mr Sinan Mehmed (Director, RIEW, Varna), who brought together the most important authorities involved, investors, scientists and NGO representatives and organised the field visits to the wind farm projects in Balchik, Kavarna and

Kaliakra. We also thank the Minister of Environment and Waters (Sofia) for the introductory talks on his Cabinet and the deputy Minister of Environment for his personal interest in the mission.

Meeting in the Ministry of Environment and Water, 20/06/2007: List of participants

1. Mrs. Elisaveta Petrova – Head of the Cabinet of the Minister
2. Mr. Ivaylo Zafirov – Head of Natura 2000 Department; National Nature Protection Service Directorate
3. Mr. Stefan Dishovsky – Head of Climate Change Policy Department; Strategies, European Integration and International Cooperation Directorate
4. Mrs. Katya Peycheva – state expert, EIA Department; Prevention Activity Directorate
5. Mrs. Rayna Hardalova – state expert, Biodiversity Department; National Nature Protection Service Directorate
6. Mrs. Dimitrinka Marinova – senior expert, International Cooperation Department; Strategies, European Integration and International Cooperation Directorate
7. Mrs. Carolina Lasen-Diaz – Bern Convention Secretariat
8. Mr. Eckhart Kuijken – Bern Convention Expert
9. Mr. Bert Lenten – AEW, CMS and Eurobats Secretariats

Meeting in RIEW – Varna, 21 June 2007 : Participants list

1. ing. Sinan Mehmed – Director of Regional Inspection of Environment and Water (RIEW) – Varna
2. ing. Hristina Genova – Head of Biological Diversity and Protected Areas Division, RIEW – Varna
3. Jordanka Yaneva – Chief expert “EIA and EA”, RIEW – Varna
4. Rayna Hardalova – State expert, National Nature protection Service, MOEW
5. Ivaylo Zafirov – Head of NATURA 2000 Division, MOEW
6. Stoyan Beshkov – National Museum of Natural History, Bulgarian Academy of Sciences (BAS)
7. Irina Mateeva – in charge of European Policies, Bulgarian Society for the Protection of Birds (BSPB)
8. Ivaylo Ivanov – Regional Coordinator of BSPB for North – East Bulgaria
9. Valentin Katrandziev – Association for Protection of the Wild Nature
10. Konstantin Kostadinov – Initiative Committee for Bulgarevo village
11. Pavel Zehindziev – Institute of Zoology, BAS
12. ing. Rosen Pavlov – Dobrich District Administration
13. Ljudmil Ikonov – GEOPONT – INTERCOM Ltd.
14. Doncho Angelov – GEOPONT – INTERCOM Ltd.
15. Iliana Ivanova – TESSA ENERGY Ltd.
16. Dimitry Hristov – GEO POWER Ltd.
17. Teodor Vylchinkov – GEO POWER Ltd.
18. Krasimir Kostadinov – MITSUBISHI Ltd.
19. Georgi Petkov – INOS 1 Ltd.
20. Velizar Kirjakov – Association of the Producers of Ecological Energy
21. Miglena Hristova – Kavarna Municipality
22. Jivko Nedeleev – Balchik Municipality
23. arch. Victor Buzev - Balchik Municipality
24. Georgi Zapryanov – Eco Energy Ltd.
25. Mrs. Carolina Lasen-Diaz – Bern Convention Secretariat
26. Prof Eckhart Kuijken – Bern Convention Expert
27. Mr. Bert Lenten – AEW, CMS and Eurobats Secretariats

The European Commission was invited, but did not send a delegate.

Some of the stakeholders mentioned above participated also in the field visit to the projects in Balchik, Kavarna and Kaliakra, where technical comments and local situations were discussed.

After the mission, the Bulgarian authorities were asked to provide the Bern Secretariat and the expert with following documents:

- ✓ list of participants in the two meetings (see above)

- ✓ a summary of the status of the wind farm projects regarding permits and works for each of the projects approved and under consideration in Balchik, Kavarna and Kaliakra areas (received between 18.07 and 30.08.07)
- ✓ an indicative map marking the locations of all authorised wind farms (received 17.08.07, 24.08.07, 31.08.07)
- ✓ an extract of the relevant EIAs concerning biodiversity impacts in the projects, as well as the sections that address cumulative impacts and possible alternatives (received from 17.7.07 onwards, last overview from 30.08.07).

We are most grateful for the efforts of the Ministry of Environment that collected these documents and added English translations for most of them. Special thanks to Mrs. Raina Hardalova (MOEW, Sofia).

In order to finalise a first draft of this report before the Bureau Meeting on 11.09 2007, time did not allow more detailed analysis of all these documents, some of them becoming available quite late. Still some data on specific projects are missing. For the Standing Committee Meeting in November 2007 we are prepared to complete the overview and assist in finding constructive solutions for the controversies.

The present version of the report is still to be illustrated with maps and pictures.

II. CONFLICTS BETWEEN WIND ENERGY PRODUCTION (WINDFARMS) AND ECOLOGICAL VALUES (HABITATS, FLORA, FAUNA)

A. General backgrounds and information

The use of renewable energy is to be promoted in the attempts to slow down the speed of global warming. This refers a.o. to the Kyoto protocol and to the EU Directive 2001/77/CE. However, a public misunderstanding exists that 'green' energy is without ecological controversies and is available in almost unlimited quantities. Development of projects to cover 10% of energy against 2012 by renewable sources became a national strategy of the Bulgarian government.

The location itself of windfarms is to be balanced against a series of limitations from both physical and ecological points of view, that often are not taken into account from the very start of project developments. Data collection for EIAs is sometimes limited in scope by order of the investors. This leads to cases where independent scientists and/or activist NGOs feel obliged to react when initiators have already made investments or got principal agreements, concessions or permits from local or regional authorities.

Wind farm development in Europe increases the risk of collision with birds when located along intensive migration corridors such as mountain passes, large valleys or seacoasts. Also the establishment of offshore windfarms is subject to controversies with bird migration, when build too close to the mainland.

After first developments of windfarms in California in the mid 1970s, gradually more evidence became available about alarming numbers of bird fatalities (De Lucas et al. 2007). This publication refers to existing literature and to strategies that have been developed to minimise negative effects of windfarms on birds and bats populations. The behaviour of these animals depend on availability of suitable habitats, food, shelter etc., but is also determined by the interaction between wind and relief.. Guidelines are mentioned stimulating careful approach, taking into account the topographical features of the landscape (slope angles, elevation, dominant wind direction etc.) Also the design of windfarm configuration and layout is crucial (spatial arrangement and density of turbines) including the side-effects of the above ground electrical transmission lines. Knowledge based development is recommended, stressing the avoidance of potentially hazardous geographical conditions and the unknown level of cumulative effects caused by series of several windfarms. (De Lucas et al. 2007). The need for more intensive monitoring before and after windfarm development is to be stressed; many uncertainties still exist, e.g. nocturnal migration intensity (Zehindjiev 2001, Zehindjiev & Liechti 2003) .

As most animal behaviour is also very traditionally or even genetically fixed, relevant adaptation of migration patterns as a result of building barriers such as windfarms are not evident (Zehindjiev pers. comm.)

Even when some fauna/flora species or habitats concerned are threatened or have an unfavourable conservation status, projects of alternative energy sometimes seem difficult to be altered. This does not only concern windfarms, but also the construction of river dams and barrage lakes, often causing the inundation of precious natural and even human habitats. Fortunately, for most countries qualified basic information on important species and sites for conservation exists, such as Red Lists, Vegetation maps (Bondev 1991), Important Bird Areas (Heath. & Evans 2000) etc.

B. Historical development of the case file (Balchik windfarm)

(see T-PVS/Files (2004) 6: NGO report to SC BSPB (2004), T-PVS (2006) 24, and others)

The *Via Pontica* bird migration corridor along the Black Sea coast is one of the most important flyways in Europe and even worldwide. This has been subject of scientific studies since many decades, even before the name was given. The spectacular phenomenon also got growing interest from amateur birdwatchers, which led to an increasing activity of eco-tourism. Local companies and communities became aware of this economic factor, complementary to the existing classic tourist centres such as Kaliakra and Albena.

Already in the 20th century Bulgarian authorities were well aware about the unique biodiversity present in the country. The World Summit in Rio de Janeiro (UNCED 1992) drew attention to the increasing threats on fauna and flora and launched the Convention on Biological Diversity. Bulgaria was one of the first countries to propose elements for a national strategy (see Biodiversity Support Program 1994). One of the priority areas mentioned was the Black Sea coast. In this period also action plans were published by the Ministry of Environment for conservation of the most important wetlands, contributing to the Ramsar Convention (a.o. Shabla lake and surroundings).

In the transition phase of Bulgaria's accession to the European Union, special attention had to be paid to the preservation of nature values. The Bern Convention and both Bird and Habitat Directives of EU required a number of conservation measures that were quite stringent and needed a number of steps to be taken before entering the EU. Proposals for designation of the Emerald Network (Bern) were necessary in view of the required confirmation of the Natura 2000 network by 2007. Data collection, guidelines, references such as Important Bird Areas in Europe (Heath & Evans 2000) etc. enabled the establishment of the network concept, reinforcing the existing nature reserves and areas with protective status.

Most of this basic work was available when a new Directive 2001/77/CE was adopted to promote renewable energy sources. As a result, proposals for the establishment of windfarm projects came up very soon as authorities became very interested to reach the target of 10% energy harvested by wind turbines against 2010.

See the 'National long-term Program for stimulation of implementation of renewable energy sources 2004-15'.

In the mean time the controversy between wind energy production and risks for bird collisions became subject of concern. This phenomenon is to be seen as a supplementary mortality in the open landscapes where increasingly power lines and road traffic cause many victims. Already in 2003, the Bern Convention Standing Committee presented an extensive report concerning potential conflicts between windfarms and birds (Langston & Pullan 2004) with most important aspects and guidelines for monitoring and an excellent executive summary. Especially for large soaring birds, but also for many other migrants, breeding or resting species of birds and bats this new threat became evident and led to a number of specific efforts or proposals for careful site selection.

The establishment of windfarms require EIAs responding to national and international standards. This instrument is crucial for the approvals and permits by the Ministry. Public hearings are part of the procedure, which enables the critical analysis of data by other scientists, NGOs and citizens at large.

The initiatives for weighing windfarm development against bird collision risks on sites along the Black Sea coast date from 2002 (contact between investors and BSPB). In the project proposal to build

21 turbines in Balchik the investor (Tessa Energy) needed to assess the consequences of such constructions for flora, fauna, landscape and humans. The EIA was prepared by a commissioned scientist. Serious criticism was formulated about this EIA by BSPB. Data on bird movements were quite selectively collected outside peak migration periods, which resulted in non-scientific conclusions minimising the potential risks.

In its Meeting in 2004 a first series of recommendations (N° 109) to minimise the adverse effects of turbines on wildlife was adopted by the Standing Committee of the Bern Convention (document T-PCS (2004) 4). The report of the 24th Meeting also includes to guidelines for EIAs, precautions for site selection of wind farms and priorities for research. It also refers to Resolution 7.5 of CMS (Conference of the Parties, 2002) and Resolution 4.7 of the Agreement of the Conservation of Bats in Europe (Sofia, 2003).

The further development of the EIA as regards bird studies for the Balchik project is represented in document T-PVS/Files (2004) 6 and T-PVS/Files (2006) 9. Although we cannot control all statements expressed by the stakeholders (RIEW-Varna, the investors, the scientists and BSPB), we agree with the experts from the Bern Convention (T-PVS/Files (2005) 8: expert report by Jarry, 2005).

This report resulted from the first on-the-spot appraisal for the Bern Convention that took place in September 2005 to assess the Balchik project. In this extensive report an overview of the different steps for proposing the windfarm project is presented, followed by short site descriptions (incl. photos). An analysis of the EIA reveals some weaknesses, misinterpretations and a lack of sufficient scientific data. This criticism was expressed by BSPB in its interventions during the public inquiry (June 2003) and its official complaint against the project.

Especially the key function of the steppe areas of this part of the Black Sea coast as bird migration corridor was underestimated or almost neglected and the risks of turbines causing bird mortality was minimised. An additional report for the ornithological aspects (breeding season) was produced (prof. Nankinov, June 2003) adding amendments and new findings on spring and summer bird movements, but without changing the general conclusions. The authorities (RIEW Varna) did approve the 1st phase of the project of the investor Tessa Energy OOD, subject to some measures (decision N° 2981/27.10.2003). The relevance of these measures is discussed in the expert report of Jarry (2005). Important was that the ornithological monitoring had to be completed and that construction works cannot be conducted during breeding season.

At the Bern Standing Committee Meeting in 2005 recommendations N° 117 (2005) were adopted, urging the Bulgarian government to review the approval of the Balchik wind farm. The reaction from the authorities concerned as communicated to Strasbourg in March 2006 was that no revision was intended.

Comments from the expert

The Balchik project confirmed the impression that the priorities go to mere economic aspects, almost ignoring the exceptional biodiversity values of future windfarm site that were already well known for many years. Even when the project has been implemented in accordance with the Bulgarian administrative laws, a lack of good-will seems to exist for working out compromising solutions, location alternatives or mitigating actions. It is quite clear that the *precautionary principles* for saving precious steppe habitats and avoiding risks with thousands of migratory birds in the very core area of Via Pontica were not seriously taken into consideration, not by investors, nor by the authorities concerned.

This indicated that the Bulgarian authorities did not take into account the resolutions of the Bonn Convention and Bern Convention already worked out before the Balchik project was accepted.

The Bonn Convention adopted a resolution (7.5) on wind farms and migratory species of mammals and birds in September 2002. The recommendations were the following:

- identify those areas where migratory species are vulnerable to wind farms and assure the protection of these species,
- apply procedures for evaluating impact,

- evaluate possible ecological impacts of wind farms on the natural environment and migratory species,
- evaluate the impact of constructed wind farms,
- apply the principal of precaution.

In December 2003, a very well documented report, produced by BirdLife International entitled “Wind farms and Birds: An analysis of the effects of wind farms on birds, and guidance on environmental assessment criteria and site selection issues” was presented before the Bern SC and later published (Langston & Pullan, 2004).

The recommendations in the report are the same points as taken up in the Bonn Convention resolution. However, added to this is the provision that field studies should last for at least a year. In December 2004, the «Projet de Recommandation sur l’atténuation des nuisances de la production d’énergie éolienne sur les oiseaux et les chauves souris » was examined by the Bern Convention Standing Committee.

C. New case file

In the mean time the Bern Convention Secretariat was informed that similar projects for windfarms were set up near Kaliakra by several companies, unless the knowledge about the conflicting interests with nature conservation (both ornithological aspects and importance of steppe habitat). Also a number of scientific studies became available, illustrating the importance of *Via Pontica* and the great risks of windfarm establishment.

Thus in November 2006 the Standing Committee opened a new file on the windfarm developments in Bulgaria, as most of them -if not all- were situated in IBAs and (potential) Natura 2000 sites and represented considerable risks to birds. During that meeting, the AEWA secretariat stated that the Bulgarian windfarm projects are violating a number of international agreements, such as the Bern Convention, CMS (Bonn Convention), AEWA (African-Eurasian Waterbird Agreement), Eurobats and the EU Bird and Habitat Directives (see document T-PVS (2006)24, p.14-15). The Birdlife representative, supported by AEWA, invited the SC to send to the Bulgarian Government a clear message to

- ✓ *Reconsider, in line with the recent Bulgarian Ministerial statement to the European Parliament, consents for wind farms at Kaliakra and Balchik;*
- ✓ *Suspend the construction of the wind farms pending new and adequate EIAs;*
- ✓ *Ensure approval of EIAs by technical experts as well as the Ministry of Environment’s legal department;*
- ✓ *Introduce a moratorium on consents for further wind farms in Natura 2000/Emerald Network sites pending ecological assessment of the national long-term programme for encouragement of renewable energy resources 2004-2015;*
- ✓ *Advise that these wind farm developments may be a bad investment; if the European Court of Justice rules against them in these Natura 2000/Emerald network sites, they may have to be removed.*

And to ask for information about:

- ✓ *The consequences of the expiry of the authorisation granted for Balchik;*
- ✓ *The date scheduled for the workshop on the ecological requirements to be fulfilled for building wind farms.*

In the SC Meeting in 2006 it was decided to organise the on-the-spot appraisal mid 2007, of which we hereby present a short report.

III. REPORT OF THE ON-THE-SPOT APPRAISAL 20-22 JUNE 2007

(1) Meeting at the Cabinet of the Minister of the Environment and Waters, Mr Jordan Dardov, 20 June 2007

(chair: chief of Cabinet Mrs Elisaveta Petrova).

In the introduction from the Bern Convention secretariat (Mrs Carolina Lasen-Dias) the reasons for opening a new file in 2006 were explained, mainly because of a lack of implementation of the earlier recommendations. Also the refusal for reconsiderations of permissions, unless the importance of the coastal zone for biodiversity, and the lack of information and research about cumulative effects of the series of windfarms along the Black Sea coast needed this further intervention from the Bern Convention. Mr. Bert Lenten (AEWA secretariat) referred to CMS (Bonn Convention), AEWa and Eurobats, stressing the importance of Via Pontica for a great number of migratory species, some of them of great conservation concern.

The relation of windfarm development and the network of protected areas, landscape and cultural values was mentioned. The Bern Convention can give guidance and help to find the balances which need to be worked out at national level. The organisation of a workshop was already discussed earlier, where also consequences for Bulgarian conservation policy in the critical period of accession in EU could have been discussed (designation of Natura 2000).

The Chief of Cabinet reacted with remarks on environmental measures taken (waste management, water management) and mentioned the application of lower rotor speed technology for turbines. The designation of sites was postponed indeed and there is need for good maps. Aspects of funding are a matter of concern.

(2) Meeting in RIEW – Varna, 21 June 2007

(chair: ing. Sinan Mehmed – Director of Regional Inspection of Environment and Water (RIEW) – Varna)

This consultation meeting brought together a number of stakeholders related to the windfarm development in this part of Bulgaria: investors, authorities from different levels, scientists, commissioned EIA experts, conservation NGOs and discussed openly and in a positive atmosphere with the Bern Convention delegation.

The chairman started with the statement that Bulgaria is a member of several conventions, all of them having a number of obligations. EU directives are important, e.g. the need to produce 10% of renewable energy by 2011.

The role of the Bern convention and the case-file system was explained and the aim of on-the spot appraisals. The examination of status of all projects, their cumulative effects, the follow-up of recommendations and the consultation of stakeholders is the main aim of the meeting. After the field visit, a closing discussion with the dept. Minister is planned.

Several interventions and questions were formulated by participants about the importance of renewable energy, the status of land, importance of coastal steppes and cliffs for biodiversity (e.g. butterflies) and the risks of bird collisions. The AEWa representative stated that impact of windfarms on bird migration became evident worldwide and is resulting from direct kill or injuries and from habitat losses. It is important to approach the function of Via Pontica as a dynamic gradient that can change its core flyway from season to season, from year to year over some kilometres along the coast. Therefore separate parcels or ownerships must be integrated in the flyway concept as to their importance.

The Bern secretariat comes back to the recommendations N°117 (2005) with questions on follow-up and remarks on missing information on the new windfarm initiatives. As the follow-up of these recommendations made no progress, the Standing Committee opened a file in November 2006.

The 7 recommendations *N° 117 on Balchik* (2005) were shortly commented by the Bulgarian authorities :

“The SC....Recommends the Bulgarian Government to:

1. Reconsider its decision to approve the proposed windfarm in Balchik taking into account its potential impact on wildlife and its obligations under the Convention;”

Answ. Review not possible as the Bulgarian law has been followed; in case of incomplete information, a review is allowed.

Experts comment: This statement is rather vague, as the Bern Convention SC was informed about the view of Mr. Alexander Kodjabashev – a well-known environmental lawyer – who already two years ago pointed at the legal texts which allow decisions taken on *false or incomplete information* ground to be revoked and revised.

This reaction illustrates the lack of political will to fully review the windfarm location.

“2. Undertake a strategic environmental assessment of Bulgaria's programme or plan for harnessing wind power, taking the greatest account, inter alia, of the risk of cumulative effects from different projects and other threats and adopt best practice in these respects, including a precautionary approach;”

Answ. Assessment of cumulative effects in SEA not yet ready

“3. Involve and takes account of the views, information, data and reports provided by scientific institutions and NGOs in the above process including results of research and identifying sensitive areas in relation to windfarms in the Black Sea coast;”

Answ. A contract for identification of sensitive areas has been finished before the end of the agreement with NGO, so there is no final report

“4. As a consequence of the above, set out, for the benefit of industry, civil society and others as appropriate, its expectations for the future development of wind power development in Bulgaria;”

Answ. Bulgaria must have a general discussion; this would come in a meeting but has not yet been prepared

“5. Develop and use guidance on undertaking EIA screening and project assessment, including cumulative impacts and consideration of alternative locations, taking account of existing guidance such as the CMS Resolution 7.5 and report T-PVS/Inf (2003) 12 by BirdLife International's and published by the Bern Convention: "Windfarms and Birds: An analysis of the effects of windfarms on birds, and guidance on environmental assessment criteria and site selection issues" and potential Emerald /Natura 2000 Network sites;”

Answ. Existing information and future guidance (also from EU) is taken into account

Experts comment: is is not clear from documents received how this was worked out in practice.

“6. Involve and take account of the views, information, data and reports provided by scientific institutions and NGOs in undertaking future EIAs;”

Answ. This did not yet take place

“7. Apply the approach described above to other proposed windfarm developments in the Black Sea coast.”

Answ. ?

Experts comment: we were informed that also near Shaba lake (Ramsar site) plans exist for windfarm projects

Following the opinion of investors the EIA has followed the recommendations. They announce the use of Radar as a warning system and the stop of turbines at high risk migration density.

BSPB states that predictions of cumulative effects of the many turbines that the regional inspectorate has allowed have not been included. Also the lack of good understanding of night migration is mentioned. There is a need for a compromise between conservation and economy in this region with such a specific geographic configuration. Data analysis on the fauna (birds, bats) can go back to almost 70 years but most recent knowledge comes from NGOs and scientific studies (see e.g.

Liechti 2003, Zehindjiev 2001, Ivanova 2005, Dereliev & Ruskov 2005) . However, these are sometimes contradictory to the data collected as contribution to EIAs by commissioned experts, who mostly worked at a limited space and timeframe. This was a conclusion of the report by G. Jarry (2005) after the on-the-spot appraisal in 2005 for the Bern Convention, but investors have questions about the role of NGOs.

The Ministry did not change the final decisions unless the well documented criticism on the quality of the EIA.

The Bern Secretariat draws attention that so far only the 2005 EIA was discussed, including the role of all stakeholders. As the Bern Convention is an open convention also NGOs and experts can intervene.

The establishment of at least 150 (up to 400?) new turbines is the subject of the present visit and Bern conclusions will be based upon exchange of ideas during meetings that are organized and data put available. One remark was made about the independent situation and conclusions of commissioned experts; even when working as academic staff they can be confined or influenced by the commissioners (this problem exists world wide). The system of registered experts, however, must offer guarantees for sound and honest conclusions. Predicting *overall* impacts in an integrated way needs broad ecological and actual knowledge, so experts need time for bringing disciplines together (e.g. in international expert panels).

An intervention of the chair makes clear that no investments are allowed in protected areas, *but that the question of potentially protected areas is difficult*. In motivated decisions (based also on opinion of independent experts) supplementary conditions can be raised: mitigating measures, building stop in breeding season, early warning for massive bird migration (radar system to stop turbines in due time).

From investors side came a remark on the many protests on the (potential) Natura 2000 in Bulgaria. Some investors' opinion is that a new file in the Bern Convention makes no sense. The National Biodiversity Council decided the zones and future boundaries, but the Natura 2000 network is not yet complete.

A further discussion was held on the position and assessment of EIAs in the frame of the Bern Convention. The Bern expertise report is send through the Government to the focal point (Ministry of Environment).

About the recent EIAs questions are asked if cumulative effects are included and how far approval of individual investments (single turbines, clusters or real windfarms) can be legal when about this aspect evaluation is missing. No EIAs have been examined in 2006 ; permits to start works have been approved in 2007. Some turbines have been refused. There are no procedures for EIA so far outside Natura 2000 (question: is this no legal obligation?).

For the Bern Convention the basis of any assessment is how far sensitive and/or protected habitats, species of flora and fauna risk to be affected.

General conclusion of the chair is that the laws are respected at all levels. Promotion and development of wind energy must bring many people together with an agreement on locations. Investors must accept that implant of turbines can have negative consequences for landscape quality and probably also for tourist attractiveness of nearby centres like Kaliakra or resorts like Albena beach.

It is summarised by Bern secretariat and AEWA representative that criteria for assessing *cumulative effects* of series of windfarms along migration routes and in valuable habitats need specific new guidelines. These could be discussed in a joint initiative of UNEP, CMS, AEWA, Bern and the EU. It is a common interest working together for renewable energy without losses of biodiversity values.

(3) Field visit of 21.06.07

From Balchik to Kavarna-Kaliakra the locations for windfarms were visited with stops at 5 sites. Investors and managers as well as local authorities came to explain the respective projects. The representatives of RIEW Varna and NGO (BSPB) participated in the roundtrip.

We summarise our experience here in general terms.

In this season between reproduction period and start of migration we did not observe many birds also because main time was spend in discussions with investors an local authorities. Most of the visited localities are situated in the precious steppe vegetations along the coast, a rather narrow strip quite near to the cliffs. This type of habitat is known for its typical and important biodiversity (rare and threatened plant species, rich insect life and other fauna). The thin humus layer on the calcareous bedrock soil makes this habitat extremely vulnerable for irreversible changes or degradation when the soil is altered (e.g. digging or ploughing). The building activity with roads as was started in one locality clearly showed this ecological problem. As these steppe grassland are only a relatively narrow strip along the coast, this habitat (recognised in Bern Convention Annexes and Habitat Directive) needs to be respected by relocating the windfarms more inland. In agricultural zones, the impact on plant and small fauna diversity is significantly less important.

Interventions from local authorities always referred to the ownership of the municipalities and how the permissions or concessions or even ownership was given to the investors. In our opinion the authorities concerned were already fully aware of the biodiversity values of their land (via preparations of inventories and network maps). In that case local and regional responsible authorities did misjudge the ecological needs and potentials for management of these last steppe remainders and intentionally escaped from protective measures. We are convinced that in this way the growing importance of eco-tourism as an economic factor was underestimated (bird watching tour operators, landscape attractivity for biking etc.).

At most of the stopping places, we could imagine the danger of bird collisions as a result of the geographic structure (open sea, steep cliffs, flat plateau on top). Soaring birds especially need the land for the lifting air currents and coming from sea to take height they risk to be trapped in future windfarms. This holds also for birds flying inland for resting and feeding. This risk of collisions and for habitat losses is to be assessed for the entire coastal zone as a cumulative effect, not for separate parcels within that corridor. This warning has been explicitly written down in many monitoring reports, publications and recommendations. Again, ignoring these aspects is a clear proof of intentional underestimating biodiversity functions and values.

We tried to be informed at-the-spot about the availability of relevant ornithological data (at least one year monitoring), flora and fauna inventories, vegetation mapping and the independent conclusions coming out of such investigations.

It became clear that building of turbines is much more compatible in agricultural zones (only loosing a minimal percent of cropland), compared to the steppe grasslands that will be destroyed in their integrity because of soil structures and habitats vulnerable to infrastructure works (turbine fundaments, underground cables, roads, technical buildings etc.). At least 50% of the steppe will disappear in the region, which cause an even further fragmentation of these last remnants.

When discussing location alternatives more inland the investors mentioned the decrease of windspeed as a limiting factor. In reality this cannot be called an economic 'loss' but rather a 'limited gain' which only need somewhat longer period of investment writing off. How far inland the windfarms ought to be shifted for safeguarding the mass migration of birds along this section of the Via Pontica was a matter of discussion, where figures from 5 up to 20 km were mentioned.

Only via *multi-criteria analysis* the biodiversity gains and restricted economic income can be assesses before sound decisions be taken on site selection. The cumulative effects of several planned windfarms further along the coast on the mass migration of mainly soaring birds have not yet been considered in a scientific approach.

(4) Closing meeting Varna (21.06.07 pm) with deputy-Minister of the Environment, Mr. Jordan Dardov

We made the following summary of our mission:

The attractive Bulgarian coastline represents high ecological values due to the mixed landscape of agricultural land, steppes and coastal habitats with partly wooded cliffs and dunes. The traditional and intensive flyway known as Via Pontica is of international importance as migration corridor for many

bird species, mainly raptors, pelicans, storks and others. The new development of windfarms will need to find a balance between ecological functions and economy. Also the integrity of the scenery is already under increasing pressure (we have been informed of other investments that are detrimental for biodiversity, namely establishment of golf courses in the protected coastal cliffs and touristic resorts in the neighbourhood).

The delegation had positive contacts with local authorities, investors and NGOs to discuss separate initiatives and projects. Some of these are less conflicting with land use and conservation when situated in agricultural zones. Unfortunately, most projects are located within the last remainders of precious steppe grasslands of highest bio-geographical importance (included in annexes of Bern Convention and EU Directives). The maintenance and management of this threatened habitat type (often land in public ownership) is an international responsibility,

The historic and famous bird migration corridor *Via Pontica* is passing along this coastal zone of Bulgaria. Due to the geomorphologic structure and characteristics of the Black sea coast, with Cape Kaliakra as a turning point of the main direction, the establishment of windfarms in the very core areas of the flyway is a matter of great concern. No doubt that the risk of collision is real, and the significance of extra mortality among birds, some of them threatened or vulnerable species, is to be more carefully and intensively studied. This needs an international approach for data collection (long-term monitoring following existing guidelines), data validation and analysis, including modelling. The available observation results from scientists and NGOs (esp. BSPB) illustrate the high risks of extra avian mortality, due to the passage of thousands of migrating birds whose behaviour is determined by the interaction between wind and specific relief at this coastal landscape.

We have discussed with stakeholders the possible alternatives to avoid or minimise potential losses. We strongly suggest a review of the decisions taken so far, as we are afraid that they have been based upon EIAs that minimise the negative impacts of separate windfarms on biodiversity. An integrated approach including the modelling of cumulative effects of a series of windfarms (> 400 turbines) along the Black sea coast is strictly required. A thorough review is obligatory in order to respect former commitments and to implement policies and recommendations related to the Conventions of Bern, Bonn and Ramsar, the Emerald Network, the EU Directives and Natura 2000.

To benefit from this national richness in eastern Bulgaria, long term strategies must prevail the short term and mainly economically driven interests. The planning of windfarms as controversial development require qualified EIAs; this must be a permanent learning process to minimise the risks by searching location alternatives. Mitigating measures and compensations always mean that ecological losses are accepted and in this phase of the projects, the relocation still is the only reasonable approach.

The centuries-old unique steppes and coastal cliffs cannot be relocated, windfarms can.

Correct and balanced policy-making could be enhanced by stimulating further activities of the joint working group of three Ministers (MOEW, Agriculture&forest and Regional development & Public Works) concerned as was established by the Bulgarian Council of Ministers on 23 August 2006.

The concluding reaction of the Dept. Minister was (summarised): 'The mission of the Council of Europe is part of the solution to find a balance. Lively discussions opened the eyes of many stakeholders. Bulgaria has the obligation to stimulate renewable energy production indeed. This must come in coexistence with other requirements of the EU. Preservation of nature is stimulated by the establishment of Natura 2000, but may not prevent development; therefore some N2000 sites are still under review indeed (sic!). Legislations are available and a pragmatic approach is needed'.

The Bern Secretariat concluded by thanking all persons that have contributed in this mission and hopes that the recommendations and guidelines can reinforce the contributions of Bulgaria for nature conservation at international level.

IV. REVIEW OF DOCUMENTS AND EXPERTS COMMENTS

A. Documents received from MOEW (Numbers refer to messages from R. Hardalova, 17.07.07)

As requested during the mission we received information on a number of windfarm projects in Balchik and Kaliakra, notably from following investors: Geo Power, Yomi Engineering Ltd and INOS. On the maps some more projects are located that we have no detailed impact assessments or other documents.

Preliminary remark: Following information from the Bern Secretariat the list of documents is not complete, with e.g. only one single case within the Kaliakra IBA. For the Geo Power case some important documents are missing e.g. statements of BSPB and reasoned opinion in front of the Expert Council; the reasoned opinion in front of the Expert Council made by the Biodiversity expert from RIEW statement is not send. Following RIEW a report made by Geopower experts on cumulative effect as well as the preliminary recommendations made by RIEW on the content of EIA is not available.

(1) Investor: Geo Power Ltd.

List of Documents related with the EIA of the Wind Farm Project on the land of the villages of Bulgarevo and St. Nikola, Hadji Dimitar, Rakovski and Poruchik Chunchevo, Kavarna Municipality, Republic of Bulgaria. **(put in chronological order)**

Doc. 16 (dec.04?). REPORT ON THE CARRIED OUT 'MONITORING ON THE AUTUMN MIGRATION OF BIRDS ON THE TERRITORY OF KAVARNA MUNICIPALITY DURING THE PERIOD 15.08-15.11.2004 in compliance with the recommendations of the REIA, discussed by the public concerned on 21.09.2004.

Signed: Nikolain Karaivanov

Doc. 5 (Date: 29.12.2004). MINISTRY OF ENVIRONMENT AND WATERS, REGIONAL INSPECTORATE ON ENVIRONMENT AND WATERS – VARNA;

STANDPOINT ON ECOLOGICAL ASSESSMENT № 1-BH/2004

Subject: Layout plans worked out under the provisions of the Territorial Structure Act Based on Art.26, Par.1, It.1 and in connection with Par.2, It.2 of the Regulation and Building Plan and the Regulation for the clauses, regulations and methods for ecological assessment of plans and programs I

COORDINATE 'General Layout (GL) and Detailed General Layout (DGL) of a Wind Power Park in real estate properties № 73 and № 80 on the land of the village of St. Nikola, Kavarna Municipality'

Assignor: Yomi Engineering Ltd – Sofia

Doc. 06 (date/ 18.03.2005) Zakliuchenie DOVOS.en (Eng. Emilia Kostakeva REPORT FOR ENVIRONMENTAL ASSESSMENT OF "General Layout plan and Detailed General Layout plan of a Wind Power Park on the land of the village of St. Nikola, Kavarna Municipality") orig.

Doc. 15 (date: 10.06.2005) Report regarding the carried out "Monitoring on the spring migration of birds in the region of the village of Bulgarevo and the village of St. Nikola, Kavarna municipality"

Client: Geo Power Ltd. ; Executor: Institute of zoology – BAS; signed Mladen Zhivkov, Nikolai Karaivanov

Doc. 14 (date: 02.08.2005). Report regarding the carried out "Monitoring on the spring migration of birds in the region of the village of St. Nikola, Kavarna municipality"

Client: Geo Power Ltd., Executor: Institute of Zoology – BAS; signed Mladen Zhivkov, Nikolai Karaivanov

Doc. 09 (date: 8.03.06). Expertises concerning the Bulgarian Society for the Protection of Birds appeal to the District court of Dobritch, signed by Dr. Pavel Zehtindjiev, Dr. Stefan Donchev Dr. Tanio Michev (BAS).

The Bulgarian Society for Protection of Birds appealed to the District court of Dobrich against the order of the Mayor of Kavarna allowing the construction of Wind Generator Park near village St.Nikola.

Doc. 08 (date: 18.04.2006) DECISION No. 44 City of Dobrich, 18 April 2006

Petition from the Bulgarian Society for the Protection of Birds/BSPB, against order no. 283124.03.2005 of the Mayor of Kavarna Municipality for approval of Land Development Plan (LDP) of Vetroenergien park (Wind power park) on the land of Sveti Nikola village, Kavarna Municipality, properties No. 73 and No. 80.

Doc. 4 (no date; later than April 2006) Report on EIA of Investment Proposal “Construction of Wind Power Park in the Area of the Villages of Bulgarevo, Sveti Nikola, Hadji Dimitar, Rakovski and Porouchik Chounchevo, Kavarna Municipality”

Doc 12. (date: 20.06.06). Report: "Monitoring on the spring migration of the birds in the Region of the villages of Bulgarevo and St. Nikola, Kavarna Municipality, in 2006"

Employer: GEO Power OOD; Executor: Institute of Zoology – BAS; signed Nikolai Karaivanov

Doc. 7 (date 03.11.2006): ADJUDICATION No. 10875 Sofia, (The Supreme Administrative Court)

It is organized according to a complaint of a non-profit organization “Bulgarian Society for the Protection of Birds”, submitted by the lawyer Alexander Asenov against decision No. 44/18.04.2006, pronounced by the administrative action No. 195/2005 of the District Court of Dobrich. In the complaint complaints are stated about incorrectness of the court statement within the meaning of article 218b, paragraph 1b, from the Civil Procedure Code and its annulment is required, after which the High Court of Appeal should pronounce a decision to the point, by annulment of Order No. 283/24.03.2005 of the mayor of Kavarna Municipality. (The appellee is “Yomi Engineering” Ltd.)

Doc. 10 (date: 25.09.06). Expert Note from Dr. Mladen Zhivkov to GeoPower: Ornithological Expert Evaluation of Standard Blank Form for Draft Network 'Natura 2000' for the Lands of Bulgarevo Village, Sveti Nikola Village, Hadji Dimitar Village, and Porutchik Chunchevo Village, in Kavarna Municipality

Doc. 11 (date: 22.12.2006) Report about the conducted “Monitoring study on the autumn bird migration in the region; of the villages of Bulgarevo and Sveti Nikola, Kavarna Municipality, in 2006”

Commissioned by: Geo Power OOD; Contractor: Institute of Zoology – BAS, signed by Nikolay Karaivanov

Doc. 02 (date: 20.3.2007). MINISTRY OF ENVIRONMENT AND WATER Regional Inspectorate of Environment and Water – Varna RESOLUTION on Environment Impact Assessment No BA 1 – 2/114/2007

APPROVE the realization of investment offer: Construction of wind farm on the lands of villages of Bulgarevo, Sveti Nikola, Hadji Dimitar and Poruchik Chunchevo, Kavarna Municipality’

Investor Geo Power OOD

Doc. 01 (date: 29.05.2007). Geo Power Status of the wind farm project on the land of the villages of Bulgarevo and St. Nikola, Hadji Dimitar, Rakovski and Poruchik Chunchevo, Kavarna Municipality, Republic of Bulgaria

Project Status by 29.05.2007. Signed: eng. Dimitar Hristov

(2) other Investors

date: April 2005. INOS-1 Ltd : ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Investment Proposal: Wind Farm “Kaliakra” situated in the lands of Bulgarevo Village, the Municipality of Kavarna Design Phase: Feasibility Study.

Client: INOS-1 Ltd. EIA Team Leader: L. Ikonov (CCSD GEOPONT-INTERCOM)

This is an extensive report on CD, including detailed information, descriptions, methodology, risk assessment, alternatives, mitigating measures, an international monitoring plan and conclusions.

Added are figures, maps and Annexes; most items are translated in English.

(3) Recent overview of Investments

25/08/2007. Short note from MOEW Sofia (received 30.08.07 from Mrs. Raina Hardalova)

Current status of the projects for construction of wind parks in the region of the cities of Balchik and Kavarna

Summary information about 6 investors/projects: (see further).

“TESSA ENERGY” Ltd.

“YOMI ENGINEERING” Ltd.

“VERTICAL-PETKOV” Ltd.

“INOS 1” Ltd.

“UNIVERSUM ENERGY” Ltd.

“GEOPOWER” Ltd.

(4) Legal texts available in translation from Bulgarian (thanks to Raina Hardalova, MOEW Sofia)

- LAW OF PRESERVATION OF ENVIRONMENT

- LAW FOR THE BIOLOGICAL DIVERSITY

BIODIVERSITY ACT - ANNEXES

- ORDINANCE FOR THE CONDITIONS AND THE ORDER FOR IMPLEMENTING ENVIRONMENTAL IMPACT ASSESSMENT (TITLE AMEND. – SG 03/2006)

Prom. SG. 25/18 Mar 2003, amend. SG. 3/10 Jan 2006

(5) Other documents (received from Bern Secretariat)

T-PVS/Files : see reference list

Reports from NGOs (mostly Bulgarian Society for the Protection of Birds, BSPB) : see reference list

Langston R. & Pullan, J. 2004. Effects of wind farms on birds. Nature and environment, No.139, Council of Europe Publishing; 89 pp.

B. Comments from the expert on some documents mentioned above

This annotated list situates the contents of the document and we added some reactions and remarks.

Some of these comments are grouped together for a set of documents. Then follow specific comments on the individual documents if relevant.

(1) The numbered documents hereafter refer to the Geo Power case.

Doc. 01, Doc. 02, Doc. 05, Doc. 06, Doc. 07, Doc. 08

These are related to the case /complaints of BSPB against the windfarm investors or decisions of authorities. They represent information related to the administrative side and to the court appeals.

Experts comment: It is probably true that the project has been implemented in accordance with the Bulgarian administrative laws, but in the light of international responsibilities and cross-boundary conservation strategies, a broader ecologically sound approach was expected. At least the precautionary principle had to be considered.

Further, in our view the biodiversity chapters of the EIAs mentioned do not at all reflect the evidence that risks exist for both habitat destruction (steppe grasslands mentioned under the EU Habitat directive) and the expected collision with birds and bats. As the decisions are based upon these

incomplete and weak assessments, we are of the opinion that there is legal ground for the MOEW to totally review the projects already decided at regional level (RIEW), even when under construction.

Doc. 11, Doc. 12, Doc. 13, Doc. 14, Doc. 15, Doc. 16

These are the reports of the Institute of Zoology, Bulgarian Academy of Sciences, with results on supplementary monitoring of spring and autumn migration.

Experts comment: Our impression is that these reports are scientifically quite poorly worked out. The conclusions based upon the presented information (often rather anecdotic data!) do not always look justified, but rather biased in favour of the investors, by ignoring or minimising risks towards biodiversity.

It is remarkable that the results differ so much from those collected in the autumn of 2004 at the BSPB observation points; e.g. the mass migration of White Stork is not mentioned; (see report BSPB 2005). During the autumn of 2006 the observed 22,000 White Storks over the future windfarm plant did confirm that this location is situated at the very core migration corridor, as was already known historically. However, the measurements of the height and the other circumstances (time of the year, geographic configuration, wind etc.) of large flocks of birds that can pass were not analyzed.

We refer to our exhaustive comments on the latest report (Doc. 04) to illustrate the unacceptable weakness of these reports as to the methodology, the intensity of observations and the scientific conclusions.

What is further missing in these BAS studies is the winter monitoring of birds, because this area is used by geese, including the globally threatened Red-breasted Goose. In Doc. 10 this is mentioned but did not get much weight in assessing the risks. During the mission we heard that more windfarm projects are considered in the surroundings of Shabla lake (Ramsar wetland site!). In that case even more explicit the responsibility of Bulgaria for the survival of this species would be ignored (see Dereliev et al. 2000).

Note: Also the assessment of *cumulative effects* of several windfarms along the migration corridor is not worked out. However, in its Report of April 2006 to the Standing Committee (T-PVS/Files (2006) 20, the Bulgarian Government informed about the implementation of Recommendation n° 117 (2005) "the MOEW requires EIA of all investment proposals falling in the boundaries of Natura 2000 potential sites" and "During this process it is necessary to take into account the principle of the precaution, the recommendations for field study of one year minimum duration on the migration and the possible cumulative effect along with other related constructions in the same region".

Doc. 16 (date: dec.04?). REPORT ON THE CARRIED OUT 'MONITORING ON THE AUTUMN MIGRATION OF BIRDS ON THE TERRITORY OF KAVARNA MUNICIPALITY DURING THE PERIOD 15.08 - 15.11.2004 in compliance with the recommendations of the REIA, discussed by the public concerned on 21.09.2004. Signed: Nikolain Karaivanov

From authors' conclusion.: *Risk zones (for collisions) are 1. Between the sea shore and the cliff; 2. The strip from the cliff to about 400 m inland; 3. On the south-west end of the Site (part of cadastral unit 73), where a big part of the sailing birds form "chimneys", gain height and fly away into Kavarna direction. This zone, as well as the territory of the hunting ground is also risky for those kinds of birds."*

Experts comment: Notes on 7 Bat species are included, also remarks on risk zone to be taken into account for 3 turbines to be removed; but the author also contradictory concludes 'We suppose that a big part of migrants pass about 20 to 30 km inland, avoiding the research region.' This illustrates that no integrated monitoring for a larger region has been consulted before concluding. This site cannot be studied as a separate plot with different ecological patterns compared to the very surroundings (see also comment to doc. 10).

We have been informed that some of the turbines of this cluster that had to be removed from the project have been considered later as separate turbines, thus not requiring an EIA and thus being permitted for construction. (Note: According to Bulgaria's Environmental Protection Act, wind

turbines of capacity not exceeding 5MW are not a subject of obligatory EIA. Such project can be approved directly by the Director of the respective Regional Environmental Inspectorate).

Doc. 5 (Date: 29.12.2004). MINISTRY OF ENVIRONMENT AND WATERS, REGIONAL INSPECTORATE ON ENVIRONMENT AND WATERS – VARNA;

STANDPOINT ON ECOLOGICAL ASSESSMENT № 1-BH/2004

Subject: Layout plans worked out under the provisions of the Territorial Structure Act Based on Art.26, Par.1, It.1 and in connection with Par.2, It.2 of the Regulation and Building Plan and the Regulation for the clauses, regulations and methods for ecological assessment of plans and programs I

COORDINATE 'General Layout (GL) and Detailed General Layout (DGL) of a Wind Power Park in real estate properties № 73 and № 80 on the land of the village of St. Nikola, Kavarna Municipality'

Assignor: Yomi Engineering Ltd – Sofia

Doc. 06 (date/ 18.03.2005) Zakliuchenie DOVOS.en (Eng. Emilia Kostakeva REPORT FOR ENVIRONMENTAL ASSESSMENT OF "General Layout plan and Detailed General Layout plan of a Wind Power Park on the land of the village of St. Nikola, Kavarna Municipality") orig.

In this document the opinion of the experts that wrote the EIA is accepted by RIEW (or its Expert Commission); they conclude that negative environmental aspects are not to be expected when some additional recommendations (mainly safety) are taken into account. The presence of specific steppes is recognised and preservation of the natural character is advisable. The investor is recommended to look for other terrains westwards of the steppes, where turbines would not have negative impact on animals and cultural (*sic!*) plants. On the Wind Power park site no rare plants or animals occur. The generators must be turned off in cases of high concentration of birds in the region of the windpark. If supplementary studies (from August to November 2004) are not in conflict with the investment it is asked to give positive resolution on the investment resolution.

Experts comment: conditions and precautions show that regional authorities are well aware of possible risks, but they also minimise biodiversity values to justify their positive respons to investors.

We have no view on the follow-up of the advice for *location alternatives*.

Doc. 15 (date: 10.06.2005) Report regarding the carried out "Monitoring on the spring migration of birds in the region of the village of Bulgarevo and the village of St. Nikola, Kavarna municipality"

Client: Geo Power Ltd. ; Executor: Institute of zoology – BAS; signed Mladen Zhivkov, Nikolai Karaivanov

Doc. 14 (date: 02.08.2005). Report regarding the carried out "Monitoring on the spring migration of birds in the region of the village of St. Nikola, Kavarna municipality"

Client: Geo Power Ltd., Executor: Institute of Zoology – BAS; signed Mladen Zhivkov, Nikolai Karaivanov

Doc. 09 (date: 8.03.06). Expertises concerning the Bulgarian Society for Bird Protection appeal to the District

court of Dobritch, signed by Dr. Pavel Zehtindjiev, Dr. Stefan Donchev Dr. Tanio Michev (BAS).

The Bulgarian Society for Protection of Birds appealed to the District court of Dobrich against the order of the Mayor of Kavarna allowing the construction of Wind Generator Park near the village St.Nikola.

The following questions were addressed to the experts:

1. Which species of birds and another species from the flora and fauna inhabit the territory of the planned wind generators park?

2. What is the tolerance of these species concerning different forms of anthropogenic impact and destruction of their habitats?

3. What kind of important habitats will be destroyed in case the wind turbines park is built?

4. Is the territory a part of the Bulgarian net of NATURA 2000 territories?

Is the plan in accordance with the National long term strategy?

Experts comment: In this report only quite vague impressions are summarised about the bird chapter; the conclusions for just this local territory do not take into account the broad front of the Via Pontica migration corridor: an integrated evaluation is missing.

As to vegetations the authors look too optimistic about restoration capacity of steppe grasslands. However, the fact that this is mentioned proves that one is well aware about the importance of this habitat, which is heavily threatened by almost all windfarm projects in the region.

Doc. 08 (date: 18.04.2006) DECISION No. 44 City of Dobrich, 18 April 2006

Petition from the Bulgarian Society for the Protection of Birds/BSPB, against order no. 283124.03.2005 of the Mayor of Kavarna Municipality for approval of Land Development Plan (LDP) of Vetroenergien park (Wind power park) on the land of Sveti Nikola village, Kavarna Municipality, properties No. 73 and No. 80.

(from translation: The petition claims that when the Order was issued, significant violations of the administrative and procedural regulations were allowed, and furthermore the same was issued while violating the Environmental Preservation Act, the Biological Diversity Act, and the Convention in Bonn and in Bern.

The reasoning of the petitioner was that Bulgaria is part of the areal of the migrating species of birds, but that upon the approval of the LDP the requirements of the Bonn Convention /for the protection of the migrating species of birds/ for taking into consideration the migration of birds/ were not fulfilled. The Bern Convention /for preservation of the Wild European Flora and Fauna and the Natural Habitats/ was also violated since a full and comprehensive expert evaluation was not performed on the impact of the project on the migration of birds...”)

Doc. 4 (no date: later than April 2006) Report on EIA of Investment Proposal “Construction of Wind Power Park in the Area of the Villages of Bulgarevo, Sveti Nikola, Hadji Dimitar, Rakovski and Porouchik Chounchevo, Kavarna Municipality”

This document is illustrative for the superficial way in which monitoring is reported and how conclusions are formulated . In the Annex I we include short citations from the authors, followed by our comments.

See details in Annex I

Doc 12. (date: 20.06.06). Report: "Monitoring on the spring migration of the birds in the Region of the villages of Bulgarevo and St. Nikola, Kavarna Municipality, in 2006"

Employer: GEO Power OOD; Executor: Institute of Zoology – BAS; signed Nikolai Karaivanov

Doc. 7 (date 03.11.2006): ADJUDICATION No. 10875 Sofia, (The Supreme Administrative Court)

It is organized according to a complaint of a non-profit organization “Bulgarian Association for Protection of the Birds” with a seat in Sofia, submitted by the lawyer Alexander Asenov against decision No. 44/18.04.2006, pronounced by the administrative action No. 195/2005 of the District Court of Dobrich.

In the complaint complaints are stated about incorrectness of the court statement within the meaning of article 218b, paragraph 1b, from the Civil Procedure Code and its annulment is required, after which the High Court of Appeal should pronounce a decision to the point, by annulment of Order No. 283/24.03.2005 of the mayor of Kavarna Municipality. (The appellee is “Yomi Engineering” Ltd.)

Doc. 10 (date: 25.09.06). Expert Note from Dr. Mladen Zhivkov to GeoPower: Ornithological Expert Evaluation of Standard Blank Form for Draft Network 'Natura 2000' for the Lands of Bulgarevo Village, Sveti Nikola Village, Hadji Dirnitar Village, and Porutchik Chunchevo Village, in Kavarna Municipality

Experts comment: The evaluation of the single windfarm plot as a separate Natura 2000 site using the standard form for N2000 designations of larger zones at national level is irrelevant and the authors came to the unacceptable conclusion that this zone does not merit designation as SPA or SAC. The Natura 2000 sites are mosaics of different habitat and land-use types that meet criteria in an integrated approach. Further, some specific interpretations on the occurrence of species do not reflect the actual knowledge (e.g. Quails and Corncrakes, Red-breasted Goose) and thus underestimate the values of the site also for this aspect.

Doc. 11 (date: 22.12.2006) Report about the conducted “Monitoring study on the autumn bird migration in the region; of the villages of Bulgarevo and Sveti Nikola, Kavarna Municipality, in 2006”

Commissioned by: Geo Power OOD; Contractor: Institute of Zoology – BAS, signed by Nikolay Karaivanov

Authors’ conclusion: “*We could say for certain that the autumn migration in that region and on that territory was more intense and bigger number and wider variety of species migrated there. Referring to the figures of the previous monitoring studies we found that during the spring months the migration was very slight, there were no large flocks or gatherings of soaring birds. In the autumn their number were multiply bigger, but nevertheless far from the numbers of migrants in the southern parts of the migratory Black sea routes.*”

Experts’ comment: this conclusion is a result of intentional fragmented evaluation without taking into account that the value of a single site also depends on neighbouring habitats. The coastal zone as a whole, being a mosaic of steppe habitats and agricultural land, is over flown by migratory birds and small scale separate assessments make no sense.

Doc. 02 (date: 20.3.2007). MINISTRY OF ENVIRONMENT AND WATER Regional Inspectorate of Environment and Water – Varna RESOLUTION on Environment Impact Assessment No BA 1 – 2/114/2007

APPROVE the realization of investment offer: Construction of wind farm on the lands of villages of Bulgarevo, Sveti Nikola, Hadji Dimitar and Poruchik Chunchevo, Kavarna Municipality’

Investor Geo Power OOD

Experts comment: The decision of RIEW is motivated by the statement that forecast and assessment has been done of all estimated significant impacts of windfarms. This is not true as the monitoring and the EIA are not designed nor executed in a way that allows to assess any cumulative effect

Doc. 01 (date: 29.05.2007). Geo Power Status of the wind farm project on the land of the villages of Bulgarevo and St. Nikola, Hadji Dimitar, Rakovski and Poruchik Chunchevo, Kavarna Municipality, Republic of Bulgaria

Project Status by 29.05.2007. Signed: eng. Dimitar Hristov

Note: According to Bulgaria’s Environmental Protection Act, wind farms of capacity not exceeding 5MW are not a subject of obligatory EIA. Such project can be approved directly by the Director of the respective Regional Environmental Inspectorate.

General Experts comment on Geo Power documents: (see also Langston & Pullan, 2004)

The required approach for understanding the internationally important phenomenon of the Via Pontica migration corridor needs qualified long term bird monitoring during all seasons and following an accepted methodology. This can be done by a variety of observers: amateurs, scientists, NGOs, specialists committed by investors, etc. Most important from qualitative point of view is the validation of the collected data and conclusions by an international panel of independent scientists. The secretariats of Conventions such as Bonn, Bern, Ramsar, AEWA, CBD are to be approached by the Bulgarian Government for joining their efforts to guarantee the independent assessment of proposed windfarms, taking into account the exceptionally important transboundary bird movements along Via Pontica.

Modelling of different factors must be the basis for predicting the effects of future turbines and wind farms.

In such an approach it is important to have an integrated analysis for the whole Bulgarian coastal zone.

Even for the specific projects mentioned here it is not allowed nor scientifically correct to subdivide the surrounding landscape of Kavarna, Kaliakra, Bulgarevo etc. including the strip of several kilometres inland from the coastal cliffs into smaller cartographic 'units' and to draw totally separate conclusions for each part. This neglects the 'noise' of this type of ecological processes. The well known migration corridor is a coherent but variable front or gradient that may not be split up in separate smaller parts with more or less intensity of migration. It is not justified indeed to separate only one zone for a specific investor and then prepare assessments and conclusions on timely and very locally collected data on a set of variable phenomena

What is also missing in the above mentioned studies is the winter monitoring, because this area is used by geese, including the threatened Red-breasted Goose (see Dereliev et al. 2000).

(2) Other Investors

date: April 2005. INOS-1 Ltd : ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Investment Proposal: Wind Farm "Kaliakra" situated in the lands of Bulgarevo Village, the Municipality of Kavarna Design Phase: Feasibility Study.

Client: INOS-1 Ltd. EIA Team Leader: L. Ikonomov (CCSD GEOPONT-INTERCOM)

(extensive report on CD, including detailed information, descriptions, methodology, risk assessment, alternatives, mitigating measures, an international monitoring plan and conclusions.

Added are figures, maps and Annexes; most items are translated in English). Comments to follow.

(3) Recent overview of Investments

25/08/2007: Note from MOEW Sofia (received from Raina Hardalova 30.08.07)

Current status of the projects for construction of wind parks in the region of the cities of Balchik and Kavarna

"TESSA ENERGY" Ltd. The company has been issued a DECISION on EIA № 3-3(95)2003 for approval of installation of up to 12 wind generators in lot № 287 in the land-use area of the city of Balchik.

From the date of issue of EIO up to now no information has been received in RIEW-Warna concerning any activities of the investor for coordination of Detailed Development Plan, investment projects, opening of construction site and any other activities, connected with the realization of the Investment Proposal.

There are no started construction activities in the planned terrains.

"YOMI ENGINEERING" Ltd. The company has been issued a STANDPOINT on Ecological Assessment No. 1-BH/2004 for coordination of the modification of the General Development Plan and Detailed Development Plan for lots №№ 73 and 80 for installation of 7 wind generators in the land-use area of the village St. Nicola, Kavarna Municipality.

The investment proposal is under procedure for modification of the status of use of the agricultural land.

There are no started construction activities on the terrain.

"VERTICAL-PETKOV" Ltd. The company has been issued a DECISION on EIA № 1-2(101/2005) for approval of the installation of 3 wind generators in lot № 039007 in the land-use area of village of Bulgarevo, Kavarna Municipality.

There are no started construction activities in the planned terrains.

“INOS 1”Ltd. The company has been issued a DECISION on EIA № 2-2(101/2005) for approval of the installation of 35 wind generators in lots №№ 386, 3867 and 388 in the land-use area of village of Bulgarevo , Kavarna Municipality.

A construction site has been opened for stages 1 and 7, dated 19.03.2007, in compliance with the issued Permission for Construction № 89/15.05.2006 – for construction of electro-substation and storehouse for building materials with administrative part.

At the moment the construction of the aforementioned object is being processed.

The submitted for consideration to RIEW – Varna Detailed Development Plan for situation of the wind generators is coordinated. Up to now the investor has not submitted for coordination to RIEW – Varna any other plans and/or investment projects, as well as any information about approval of Detailed Development Plan and/or investment projects, and about any issued by Municipality Kavarna Permissions for Construction.

“UNIVERSUM ENERGY” Ltd. – The company has been issued a DECISION on EIA № 3-2(101/2005) for approval of installation of 32 wind generators in the land-use areas of the city of Kavarna and village of Bulgarevo, municipality Kavarna.

From the date of issue of EIO up to now no information has been received in RIEW-Varna concerning any activities of the investor for elaboration and coordination of Detailed Development Plan , investment projects, opening of construction site and any other activities, connected with the realization of the Investment Proposal.

There are no started construction activities in the planned terrains.

GEOPOWER Ltd.- The company has been issued a DECISION on EIA 1-2/114/2007 for approval of the installation of 53 wind generators in the land-use areas of the villages of Bulgarevo, St. Nikola, H. Dimitar and P. Chunchevo, Kavarna Municipality. Thirty three of the planned lots fall in NATURA 2000 sites under the Bird Directive.

In pursuance of item 14 of the DECISION, the investor has submitted for consideration in July, 2007 53 Detailed Development Plans for the particular lots. In every single lot it is foreseen installation of one wind generator.

The plans are coordinated with a STANDPOINT of the Regional Inspectorate of Environment and Water (RIEW) – Varna. They also have been coordinated with the Regional Inspectorate for Public Health Protection and Control (RIPHP) – Dobrich and other administrations according to the legislation.

There are no started construction activities in the planned lots up to now.

(4) Legal texts available in translation from Bulgarian

We received English versions of some laws and regulation. Mrs. Raina Hardalova kindly highlighted the most relevant parts. Without having analysed these texts, we only paid attention to some articles/

- LAW OF PRESERVATION OF ENVIRONMENT

According to the Environmental Act the Expert Council under the RIEW has the role of evaluating the consistency and quality of the EIA reports, and according to the content and conclusions of the EIA to propose to the Director of RIEW an expert decision as to whether the given project complies with legal ecological provisions and could be implemented or not.

- LAW FOR THE BIOLOGICAL DIVERSITY

BIOLOGY ACT - ANNEXES

Quid Art. 19 giving power to the Minister to halt damaging developments or projects for 2 years?

Are all species of Bern/EU Habitat mentioned also in the Bulgarian Biodiversity Law, adopted in 2002 ?

- ORDINANCE FOR THE CONDITIONS AND THE ORDER FOR IMPLEMENTING ENVIRONMENTAL IMPACT ASSESSMENT (TITLE AMEND.–SG 03/2006)

Questions: quid procedure cross-border impacts ? No reference to EU regulations?

Art. 1. The ordinance shall determine the conditions and the order for implementing of environmental impact assessment (EIA) of the investment proposals of art. 81, para 1, item 2 of the Law of protection of environment (LPE) and art. 31, para 2 of the Law of the biologic diversity.

Chapter eight. PROCEDURE OF EIA IN CROSS-BORDER CONTEXT

Art. 23. The environmental impact assessment for investment proposals *with cross-border impact* shall be implemented according to the requirements of LPE, of the ordinance and the Convention for environmental impact assessment in cross-border context, ratified with law – SG 28/95, in force from September 10, 1997 (prom. SG 6/99; corr. SG 89/99), unless an international agreement between the Republic of Bulgaria and affected state or states other is provided.

V. ELEMENTS AND ITEMS FOR POSSIBLE RECOMMENDATIONS

(1) Land tenure, conservation values and protection status of coastal areas

Proposals for designation of Emerald Network were preparing the accession of Bulgaria into EU and were necessary in view of the required confirmation of Natura 2000 network by 2007.

This preparation was under its way when proposals for the establishment of windfarm projects came up in the very same locations with explicit ornithological and landscape-ecological interest.

It is our impression from documents and discussions in meetings and on-the-spot that the official designation of some Natura 2000 sites in the coastal area has been postponed just in order to create the possibilities for investors to develop windfarm and other infrastructural projects (golf courses, hotel resorts).

This is strongly enhanced by the local authorities, still having the ownership of coastal land, including last remainders of rare West-Pontic steppe grasslands. As these types of land have only limited economic (agricultural) value in the classic short-term approach, the authorities have enabled and encouraged more profitable windfarm projects by selling their land to private investors (or signing concessions for this purpose).

Habitat values

The ecological values and functions of these coastal areas thus has been neglected in an irresponsible way. It is hard to imagine that the authorities concerned (at all levels!) were not aware of the precious habitat values and especially of the massive bird migration corridor as a historic phenomenon. This attractive flyway became a source of income through increased eco-tourism during the last decade indeed and local inhabitants and politicians must have been well aware about this lucrative aspect.

Also the steps toward fulfilling the EU requirements for nature conservation (adaptation of national law to include EU regulations) must have been in full discussion at that time and municipalities must have been informed about the potential protection that part of their territory merits.

The Bulgarian legislation includes several instruments to protect nature values through the Environmental law and the Law on Biodiversity. Also physical planning legislations normally take into account landscape and biodiversity values, but give no management prescriptions.

In order to respond international criteria and requirements for nature conservation (not only in already designated areas) the Bulgarian government is to be advised to establish strong restrictions on selling land with explicit nature values. Notably the land tenure of municipalities along the Bulgarian coast needs a critical and unrestrained inventory of such values before procedures of possible alienation to private investors can start (e.g. for windfarms, but also for tourist infrastructure like golf courses and hotels). This restriction must include all kinds of concessions that will damage recognised biodiversity values (see e.g. the contracts of “INOS-1” Ltd with the Municipality of Kavarna for

granting construction rights via '*limited ownership rights on municipal land in view of construction of Windfarms*'). In this regard we miss references to the Vegetation Map (Bondev 1991) and inventories with clear indications of the vegetation types present including their Habitat codes (from Annexes in EU-Habitat Directive 1992).

Where municipalities did renounce land ownership, they are recommended to invest the received income in new land outside zones with high nature values or protected areas. This must enable the relocation of windfarms to less sensitive areas.

When agricultural land can be acquired, a rather limited percent of the surface area within a windfarm zone is to be changed for erecting turbines (0,15%, see Doc. 04), without disturbing agricultural activities on the remaining land. In zones with biological interest, the integrity is essential; fragmentation as a result of building turbines and the necessary technical equipment always causes irreplaceable losses for the whole area.

Establishment of windfarms in steppe grasslands causes disturbance of soils and vegetations (construction of roads and underground cable network, basement of turbines, technical buildings etc.). The topsoil of these ecosystems is quite thin and easily disturbed. These precious grassland habitats are important for a number of red list species at regional, national and transboundary level. They are included in the EU habitat directive annexes because of their species richness and rarity. However, we have been informed by an eco-tourism company that at present (30.09.07) already 100 ha of steppes near Kaliakra have been destroyed.

In the EIA reports some of the negative effects of windfarm establishment on such valuable grassland habitats are not assessed from the right point of view, almost neglecting the biogeographical importance and even uniqueness of these Pontic steppes. In most EIAs and studies of BAS, the attention of the reader is derived toward less sensitive and less important habitats, such as forest belts and agricultural land.

Fauna values

The function of the Black Sea coastal area as one of the globally important migration corridors is already known and studied since several decades, long time before production of wind energy even became a specific policy. Therefore it is not understandable and unacceptable that the aspect of conflicting matters between mass bird migration and implanting of windfarms is considered in official EIAs to be of minor concern.

All authorities had to know that the precautionary principle was to be applied as a driving concern before public grounds were put available to investors. Apart from hundreds of thousands of migrating birds –mostly soaring species- passing every year along the Via Pontica in a fixed behaviour that is very unlikely to adapt when windfarms are blocking their corridor., The coastal area further has clear importance for several Bat species (Chiroptera), and the specific fauna of steppe grasslands is valuable as well. (see e.g. 'Prime Butterfly Areas in Bulgaria' by Abadjiev & Beshkov (2007).

Even if the procedures did follow all legal steps, it is only after investors acquire the land or receive concessions that the official assessments can start as part of EIA. From that moment, however, financial and economic interest become too much a unilateral concern and mainly inspire short term political interventions and conclusions.

It is evident that the international standards and procedures for conservation of nature values have been fully accepted in the past by the Bulgarian authorities, notably at the moment of ratification of the Bern Convention and other biodiversity treaties). Also when the accession process for the EU was started, requirements for timely implementation of Bird and Habitat Directives belonged to the conditions of receiving EU membership. Delay of final decisions on designating the Natura 2000 network in Bulgaria (at least some of the crucial sites) is not acceptable, as private initiatives (supported by local and regional authorities) have been able to be established, even when disturbing or highly threatening actual values and planned nature protection initiatives at EU level.

This case file for the Bern Convention is a necessary step to prevent further deterioration and disturbance of nature and must stimulate restoration of damage already caused.

(2) Conservation oriented measures

Relocation of wind farm projects at Balchik and Kaliakra is to be considered as the first priority in order to avoid the most intensive bird migration corridor along the coastal cliffs and safeguard the steppe grasslands.

The proposed designation of special protection areas (SPAs, Bird Directive) or areas of special protection (SACs, Habitat directive) must be respected, even if the designation process of Natura 2000 is not yet finalised. These areas ought to have been selected following strict European criteria as being of international importance. The basic preparative documents and/or scientific elements for this EU procedure were already under preparation before windfarm projects started.

When a delay or revision of the decisions about the boundaries of these (potential or actual) Natura 2000 sites seems to be inspired by mere economic interests, it is essential to remember that for EU the establishment of controversial activities can only be justified for 'urgent national needs' and on the strict condition that valuable *compensations* are decided at that time. As relocation of windfarms more inland would not hinder the national strategy for alternative energy, the 'national interest' would not become in danger and cannot be invoked as an argument for future windfarm development..

As there are possibilities for alternative location of windfarms, the Bern Standing Committee is strongly advised to order an immediate stop of the present building activities and to support the concept of a moratorium for further developments along the Via Pontica, especially including the remaining steppe grasslands and all coastal wetlands. The idea of revoking decisions and a further moratorium has already been formulated in the Standing Committee Meetings of November 2006.

Like in some other countries, a buffer zone of 500-700 m around all types of actually or potentially protected areas is to be respected. This must ensure the integrity of the landscape-ecological functions of nature reserves, national parks, Ramsar-wetlands and Natura 2000 sites. Especially in the case of the Via Pontica migration corridor this must give extra space for safe passage of soaring birds.

Withdrawal of concessions and building permits, however, are to be accompanied by projects working out relevant alternatives. For these aspects, funding from EU, Worldbank etc. could be solicited.

From some EIAs we learned that authorities and investors were duly informed about the nature values of their territory; as a consequence some restrictions and mitigating measures have been proposed or imposed. However, the follow-up is not yet clear. In some cases the withdrawal of turbines from sensitive parts of windfarm area has been formulated, but it is not clear if these turbines have been accepted as separate initiative, that do not need EIA and can be agreed by RIEW. When additional monitoring reports were urged to improve the EIA quality (under pressure of NGOs), we did not reveal fundamental changes of decisions, by the relevant authorities.

After realising the most urgent need to stop all existing projects and relocate the windfarms under construction within actual or potential Natura 2000 sites more inland, the following standard requirements or **conditions** to investors outside protected areas are to be considered related to bird migration:

- develop an early warning system to stop turbines at periods of mass movements of soaring birds or in bad visibility conditions (methods to be tested and assessed in existing windfarms: radar, permanent monitoring)
- guarantee the monitoring of bird collisions following international standard methods

In some documents these are formulated, but follow up is not clear.

After **relocation** outside vulnerable steppe grasslands, the maintenance or restoration of the remaining species-rich grasslands within the former concession zones must be ensured, implementing classic nature-oriented measures:

- no plantations with non-native species or crops (ornamental or harvesting purposes)

- no ploughing or altering the original steppe grassland habitat (relief, soil)
- grassland management by continued sheep or cattle grazing, taking into account the carrying capacity

(3) Legislative aspects

At all occasions during our mission the authorities and investors confirmed and stressed that all legal procedures were strictly followed and that no arguments of revision of concessions, authorisations and permissions are to be found.

Experts view:

Procedures including public consultations may have been respected correctly, but the decisions seem to have been based upon *incomplete or selected information* brought together in EIAs with sometimes *weak, tendentious experts conclusions*. When after public hearing and pressure from NGOs additional investigations (mainly on bird migration aspects) were ordered by investors, again the conclusions are minimising the expected effects of windfarms at the very core areas of mass migration.

This is contradictory with the results of more detailed ornithological monitoring during longer periods, that was realised by BSPB and that formed the base of the complaints in the Bern Convention.

As these existing and published results do not seem to be acceptable for some authorities because they originate from NGOs, we strongly suggest that an independent and international peer review panel be installed to develop a second opinion or contra-expertise. A similar procedure has been worked out in other cases in order to validate and analyse the scientific data available and -if necessary- to collect additional observations.

In the mean time a stop of building activities in the existing projects is to be accepted and relocation studied. Also an official moratorium must come in place on further planning of windfarms and related procedures such as changes in public land ownership or attribution of concessions in favour of investors.

(4) Considerations in the light of Bulgarian EU accession and regulations

We strongly advice the Bern Standing Committee to communicate this complex windfarm case to the competent EU authorities in view of the contradictions of the economic developments along the Black Sea coast with international conservation values and needs.

Only revoking existing permits and a strict moratorium on further turbines and windfarm projects in the coastal areas of Bulgaria can guarantee the finalisation of the designation of protected areas that were partly and deliberately postponed. The list of recognised important sites such as Important Bird Areas (IBAs), prime butterfly areas, SACs and SPAs (>Natura 2000) and Ramsar wetlands is a sound basis to establish functional biodiversity networks in places where the delay of designations enabled investors to take initiatives.

The EU law refers to a number of Directives listed below:

- ✓ Directive 97/11/EEC on Assessment of Environmental Impact
- ✓ Directive 90/313/EEC on Access to Environmental Information
- ✓ Bird directive 79/409/EEC requiring *inter alia* the designation of resp. 'Special Protection Areas' (SPA s)
- ✓ Habitat directive 92/43/EEC requiring *inter alia* the designation of 'Special Areas of Conservation' (SACs), where species and habitats mentioned in the Annexes occur.

The EU Bird Directive art. 4.1 stipulates '*The species mentioned in Annex 1 shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution*'.

For the non-Annex I species, art. 4.2 indicates: '*Member States shall take similar measures for regularly occurring migratory species not listed in Annex I, bearing in mind their need for protection*'.

in the geographical sea and land area where this Directive applies, as regards their breeding, moulting and wintering areas and staging posts along their migration routes'.

Art. 6 of the Habitat Directive includes requirements to be fulfilled in the framework of the earlier Bird Directive. It includes the following wording : *'investments that are likely to have a significant effect on Natura 2000 sites need to be subject to an appropriate assessment of their implications. If there are negative implications, the investment can only be allowed in absence of alternative solutions and for imperative reasons of overriding public interest'.*

(5) Emerald Network / Natura 2000 (see website Council of Europe, also H. Jaffeux in Naturopa 2004).

Launched in 1999, the Emerald Network is now in its implementation phase. It consists of a wide-ranging programme of national pilot projects set up with a view to developing a pilot database on selected areas representative of the habitat types and species found in each country, these being identified in accordance with the relevant recommendations and resolutions. The pilot projects are also designed to form national multidisciplinary teams bringing together the various scientific institutions involved in the programme in the countries in question, and to give them the necessary skills and methodology to set up the Network. Twenty-two pilot projects have been organised in Europe to date, and two pilot projects are under way in African states (Senegal and Burkina Faso). Other European and African states may launch pilot projects in the coming months. We did not trace if all relevant species and habitats of the Bern Convention and the EU Habitat Directive also in Bulgarian Biodiversity Law, adopted in 2002.

(6) Threats to protected nature values and opposed views on windfarm projects

Experts final conclusion

Based on the available information, scientific literature and the field visit, it is our opinion that the development of windfarms at Balchik and Kaliakra will cause significant ecological problems. Especially the migration corridor of birds, including several endangered species, as well as the remainders of valuable Pontic steppe grassland need all measures to secure their undisturbed habitats. The ecological importance of Via Pontica as a long-distance migration corridors is internationally recognised and location of wind farms in its key sites is in contradiction of international agreements and must be avoided or revoked.

The attractiveness of this mass migration phenomenon had already lead to important eco-tourism in the last decade, even before windfarm projects initiatives started. Local authorities therefore must have been well aware about these values and about the ecological function of the coastal strip of steppe grasslands. It is a matter for regret that these grounds in public ownership were sold to private companies and/or concessions have been granted to these.

It is clear that when handling in this way, authorities at that time must have been convinced of these ecological values, as already in the very early stages of EU accession, the designation of 'special protection areas' or 'special zones of conservation' was to be prepared. Proposals of these delimitations have been worked out in the framework of the Bern Convention 'Emerald Network', the predecessor of the EU Directives.

Therefore we advice the establishment of a compulsory stand-still on selling public land with high biodiversity values (steppes, bird roosts and migration corridor) or giving concessions to private investors in order to prevent the development of projects (e.g. windfarms, golf courses, hotels) that are incompatible with actual and potential protection status of the sites.

The Bern Convention (and the EU directives) require also conservation measures outside actually protected areas. Moreover, the pan-European Biological and Landscape Diversity Strategy stresses the need for ecological corridors as well (see Kuijken & De Blust 2003).

The government could organise a consultation with the municipalities in the coastal area that are owner of public land with high biodiversity value (mainly traditional steppe grasslands and shrub) in view of an imperative prevention of damage to steppe habitats by construction works etc., as these key sites are the last remnants of steppes in Bulgaria and thus need strict protection and continued traditional land-use or nature management (see also EU requirements). Because ecological restoration

of steppes is almost excluded once the soil is disturbed by digging or removing top layer, a stop and prohibition of construction works is essential.

Especially a stand-still on selling such public steppe land or attributing concessions to private investors must prevent the development of harmful projects (e.g. windfarms, golf courses, hotels) that are incompatible indeed with actual and potential protection status of the sites.

Where possible the municipalities could be encouraged to re-acquire the windfarm estates and swap land with less vulnerable grounds for relocating planned or existing turbines outside the Via Pontica core flyway.

Landscape and biological diversity is one of Europe's most important assets. A strategy and *code of conduct* for the introduction of these considerations into the energy sector is to be worked out. Only by doing so the important contribution of windfarms in delivering alternative energy can be ecologically balanced and the 'National long-term Program for stimulation of implementation of renewable energy sources 2004-15' of the Bulgarian government can be achieved without controversies with conservation.

For these reasons, the Strategic Environment Assessment including integrated economic, social and environmental aspects, followed by a detailed Environmental Impact Assessment Report are the essential basic documents before projects can be decided. These documents are strictly required before the Standing Committee of the Bern Convention can duly investigate the case (art. 9.2).

The centuries-old steppes and coastal cliffs cannot be relocated, windfarms can.

VI. DRAFT RECOMMENDATIONS

Reference is made to the Recommendation No. 117 (2005) on the plan to set up a wind farm near the town of Balchik and other wind farm developments along the Via Pontica route (Bulgaria), as decided by the Standing Committee of the Bern Convention in November 2005.

Having stated the relatively poor or incomplete follow-up that was reported, the Standing Committee is advised to take over some of these recommendations, if necessary in a new context and urge full implementation of these items.

Having visited the questioned sites during the on-the-spot appraisal and having observed the presence of precious steppe vegetation in most actual and future windfarm locations ; also having acquaintance with the specific topography and landscape structure including cliffs and bare steppe plateaus suitable for migrating soaring birds;

Stating after screening of the biodiversity chapters of different EIAs and additional reports that these rarely do respond to scientific quality levels (e.g. lack of methodology and criteria, almost anecdotic data on non-avian fauna), that in most reports the bird collision risks have been neglected or minimised and that in general the unique biodiversity values of the steppe habitats were almost suppressed or underestimated ;

Stating also that these inadequate EIAs have been agreed by the appropriate authorities as a basis for positive conclusions on investments and permits, sometimes including mitigating measures, but failing to seriously warn against bird collision risks;

For these reasons

(1) The local, regional and national authorities concerned are requested to review their decisions and stop constructions until more precise and scientifically sound additional Environmental Impact Assessment reports are presented and independent peer reviewed conclusions are formulated.

(2) The improvement of former and future wind energy related EIAs is to be achieved by:

a. further research and monitoring on 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 non-committed scientists

b. application of 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;

c. development of compulsory procedures of permanent peer reviewing the completeness and quality of biodiversity chapters of the EIAs and their conclusions, before continuing the administrative and legal processes; by preference this is placed under supervision of an international peer review panel supported by the biodiversity related convention secretariats and the EU

(3) In view of open communication and democratic control, the government is recommended

a. to initiate a broad debate on the precautionary principle in relation to sites with explicit biodiversity values

b. to draft guidelines for appropriate planning and less disturbing construction of windfarms and/or individual turbines (with reference to former Bern Convention efforts, see Langston & Pullan 2004).

c. to include the designation of non-aedificandi buffer zones of 500-700 m around protected areas or IBAs,

d. to enact binding procedures for 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;

e. to stimulate 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).

f. to consider and properly investigate social impact of windfarms on local population and on the loss of nature and scenery as a significant source of recreation and eco-tourism

(4) In order to minimise the risk for disturbing the traditional and intensive bird migration along the internationally important Via Pontica flyway and in view of the maintenance of precious coastal steppe grasslands and their flora and fauna of European value, the Bulgarian government is further recommended

a. to fully reconsider the development of existing or approved windfarms projects in the Balchik and Kaliakra region situated within or nearby sites designated as important bird areas and special areas of conservation or having potentials for nature reserves

b. to establish a strict moratorium on further turbines and windfarms projects in the coastal areas of Bulgaria, referring to the postponed designation of recognised valuable sites, e.g. Important Bird Areas (IBAs) and prime butterfly areas as SACs and SPAs (Natura 2000), to existing Ramsar wetlands and other biodiversity hot spots

c. to investigate the relocation of 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 the landscape that apply as Natura 2000 sites, IBAs, or other protection status

d. to develop a Strategic Environmental Assessment of the Bulgarian wind energy program, taking into account the incompatibility of wind energy production within the most intensive bird movements along the Via Pontica, namely a zone of 20 km inland and 5 km offshore

e. to select alternative locations for actual and future windfarms based on appropriate data (incl. 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 excluded from windfarm development

f. to respect a buffer zone of at least 500m around areas of recognised conservation importance

(5) The Government is recommended to work out a binding strategy and code of conduct for the introduction of considerations and regulations related to biodiversity conservation into the wind energy sector.

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VIII. FIGURES, MAPS, PHOTOGRAPHS (to follow)

ANNEX I : Specific comments on the document 04 (weakness of the EIA chapters on biodiversity)

Doc. 4 (no date: later than April 2006) Report on EIA of Investment Proposal “Construction of Wind Power Park in the Area of the Villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality” (translation of chapters on biodiversity, vegetation, fauna, habitats, prognoses, evaluations)

In the following paragraphs we include short citations (in italics) from the report chapter by chapter, followed by our comments. This document is illustrative for the superficial way in which monitoring is reported and how conclusions are formulated.

We can not judge upon the extend of this monitoring, as no map is available; our impression is that the authors mainly covered agricultural land and windbreaks (see their main comments). As there are valuable remainders of steppe grasslands shortly mentioned by the authors, we cannot accept that these have been almost neglected.

§ 3.7. Vegetation:

Authors mention “*that specific mezophyte and xero-mezophyte vegetation is available on the type of variety of soils dominating here – chernozem.*”

They do not refer to the vegetation map (1991), give no species list, no reference to Bern or Habitat annexes. Attention is only paid to agricultural land and wind shelter belts, concluding that no negative effects are to be expected (!). In this documents is mentioned that the surface area strictly occupied by turbines will only be 0.15% of the agricultural land (it is not clear if this comprises steppe grasslands).

Authors conclusions are unacceptable: “*It may be noted after the stated herein that:*

- *the availability of centuries-old or remarkable trees as well as of medicinal plants mentioned in the Medicinal Plans Act is not reported within the scope of the wind power park*
- *there are no conservationally significant species and their habitats here.*

In conclusion it may be said that the activity of the wind generators does not threaten the existing phyto-diversity and the defining of zones requiring special interference is not indispensable.”

3.8. Animal World

Authors mention: “*The territory designated for the building up of a wind power park in the territory of the*

Villages Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo represents cultivable agricultural lands with forest shelter belts and dirt roads. This type of artificial agro-ecosystems maintains low biological diversity. The forest shelter belts play the role of natural corridors and sole appropriate habitats of some of the representatives of the fauna within the area”.

No reference to steppe grasslands??

3.8.1. Characteristics of fauna conditions – species diversity, threatened, protected and extinct species, habitats.

Authors mention: “*Southern Dobrudzha is a region with intensely expressed changes in the landscape structure in consequence of the anthropogenic interference in the last few decades. The biodiversity here is intensely reduced, and a limited number of species find appropriate conditions for existence in the artificially created agro-ecosystems. The forest shelter belts play significant corridors for the entrance of the birds and the mammals into the extensive agricultural areas.”*

In this § attention is paid to breeding birds; a species list mentions categories referring to Annexes of Bern and Bonn conventions, the Biological Diversity Act, the Red Book of Bulgaria and species with international status.

Other species groups are monitored: Bats, other Mammals, Amphibians, Reptiles. Conclusions about risks fail.

§ 3.8.2. Significant places with regard to nutrition, nesting, reproduction. Seasonal presence, migrations

This is a non-scientific description of observations in several seasons and referring to former reports, without analysis or integrated interpretation; some possible risks are mentioned but minimised. The function of the territory investigated is interpreted too much as an isolated part and not seen as a component of the whole coastal zone.

It is not acceptable that authorities base decisions and permits on such weak and misleading reports (e.g. almost anecdotic data on non-avian fauna)

§ 3.8.3. Biological diversity

Authors mention: *“The zoocenoses in the artificially created by human beings agroecosystems are poor in species. They have a more limited composition of vegetation and animal components and weak mechanisms for self-regulation. The availability of forest shelter belts and coastal steppe territories contributes to the increase of the biological wealth within the region.”*

Again forest get most attention, although steppes are mentioned also, as they do contribute to biodiversity. However, the authors fail to conclude that building windfarms in steppe grasslands is totally destroying these ecosystems, because of the thin humus layer on bedrock.

§ 3.8.4. Determination of the risk zones with regard to the fauna

Authors mention: *“The zones where the concentration of birds and animals is higher shall be defined as risk. With regard to the autochthonic representatives of the fauna these are the forest shelter belts, the roadside sections, gullies overgrown with bushes and so forth. Risk zones during the spring and autumn migration of the birds are all the territories as well as local particularities of the relief determining the formation of thermals used by the wandering or hovering migrating birds. There are such predominantly in the steppe coastal habitats, in particular over the cliff and the border of the sea and the dry land”.*

Totally misleading as if steppe grasslands are not part of the windfarm complex. Lack of integrated approach.

§ 3.8.5. Condition and threats for conservationally significant species and their habitats

Authors mention: *“The species dominating in the individual types of habitats as well as such characteristics of a given biotope may be determined as conservationally significant. In most events these are species included in a number of European Conventions ratified by our country... As conservationally significant representatives of the ornithofauna we may indicate species included in Annex 1 of Directive 79/409 (Directive on Birds). Of the nesting birds these are two species of shrikes, two species of skylarks, tawny pipit, European roller, stone-curlew and longlegged buzzards. The two species of pelicans, the white storks (Ciconia ciconia), three species of harriers, the common crane (Grus grus) and others fall in this category from the migrating species of birds.*

These are species, subject-matter of special natural protective measures referring to their habitats to guarantee their survival and reproduction in their spheres of dissemination.”

Again the warning of collision risks is weak or even not mentioned. No precautions for endangered species. No advise to withdraw the windfarm project for these reasons.

§ 3.8.6. Potential for use of territories for the development of hunting and fishing

Some species of importance are mentioned.

§ 3.8.7. Forecast and valuation of the effect on fauna, ensuing from the realization of the investment proposal

Authors mention: *“Undoubtedly the construction of the wind power park and the infrastructure there will be certain negative effect over the fauna within the region, in particular with non-observation of the recommendations given. In view of the poor species diversity in the agroecosystems the structure of the facilities will not impose significant changes in the populations of the affected animal species. During the operation solely the birds and the bats will turn out to be directly affected. We established during the monitoring investigations during migration that the birds migrating throughout the region fly at a height of over 150 m so that they are not expected to have a direct negative contact with the facilities. The richness in species and number of bats on this territory is with low values and the eventual negative effects over them will be within the limits of the admissible.*

Their developed sensor system for orientation will be a supplementary condition for the localization and avoidance of the propellers of the generators.”

An excellent example of the non-scientific approach and conclusions; no methodology (e.g. estimation of flight heights), no criteria on ‘limits of admissible’.

Authors continue: *“The building up of the wind power facilities could have a certain negative effect over the species of skylarks during their reproduction period in view of their characteristics ethological particularities.*

In relation to the decision of the RIEW – Varna (Ref. No 2172/06.04.2006) the following should be noted:

In view of the fact that the facilities fall in cultivable areas, the degree of biodiversity is very low. All wind power facilities are anticipated to be built up over cultivable agricultural areas. The types of natural habitats which the agroecosystems do not enter into are indicated in Annex 1 of the Biological Diversity Act and due to this reason no coordination with the Ministry of Environment and Waters should be made. The forest shelter belts which were artificially planted in the forties and the fifties of the 20th century also did not enter Annex 1. They will not be damaged, cut down or changed in any manner whatsoever during the construction and the operation of the facilities. Naturally, at close location of the generators next to the belts, there may be a chasing away effect for some representatives of the fauna and decrease of the density of the zoocenoses as it was noted in the Report on the Environmental Impact Assessment.

As it was already indicated, solely 7 species of birds nest on this territory. Solely the Calandra lark falls in Annex 2 of the Biological Diversity Act but it is with much lower number than in steppe habitats both during the time period of reproduction and during hibernation. These territories were artificially created by management and should not be examined as natural habitats in conformity with Annex 1 of the Biological Diversity Act.

It is not clear if steppe grasslands belong to the ‘cultivable agricultural areas ’with low biodiversity (?).

§ 3.8.8. Expected changes in the behavior, dissemination, the number, the migrations

Authors mention: *“Chasing away of some animal species during the building up of the facilities is possible. In view of the high mobility of most mammals and birds, and their ecological plasticity, after the completion of the construction works they would return to the region... The behavior of the migrating birds would not change.”*

Again minimising risks without any serious scientific evidence.

3.8.9. Forecast and valuation of the expected changes over the condition of the conservationally significant animal species and their habitats

Authors mention: *“The conservationally significant species in the agroecosystems are solely the skylarks, the partridge and the quail.”*

3.8.10. Valuation of the degree of risk of clash of birds with the wind turbines

Authors mention: *“The data about the ornithofauna in the place for building up of the wind power facilities are from the terrain monitoring investigations conducted in 2004 and 2005 (reports with ref. No 227 – RD – 08 dated 10.06.2005, No 301 – RD – 08 dated 02.08.2005 and No 479 – RD – 08 dated 22.12.2005), published literature and personal information.*

The fourth season of monitoring of the site for the wind power park described in the Report on the Environmental Impact Assessment is being conducted at the moment. In spring the intensity of the migrating through this territory birds is very low. More birds are observed during autumn migration. Specifically the frequency of flying of the birds through the territory of the site is low as compared with other neighboring

regions. (...) (Follows information on species observed during 2004 and 2005).

The information refers to the specific region and is on the grounds of the conducted monitoring observations by the Institute of Zoology with the Bulgarian Academy of Science in the spring of 2005 and in the autumn of 2004 and 2005. The supplementary information about the birds and the fauna within the region is from terrain investigations and scientific data gathered in the last 10 years. It is due to this reason that we are of the opinion that the information in the Report on the Environmental Impact Assessment about the birds and the fauna is original and topical.

The directly affected and disturbed territories will be solely the agroecosystems. As we noted down, they are very poor in relation to the nesting birds. During migration the species composition repeatedly increases. We established at the monitoring investigations during migration that the birds migrating during the region fly at a height of over 150 m so that no direct negative contact with the facilities is expected. With periodic control over the around 20 wind generators built up within the region we have not established collision of birds with them so far. The observations are conducted both during intensive migration and during poor weather conditions (fog, snow, strong wind). Owing to this reason we consider that the transmission of data about the assessment of the risk of collision with similar kind of facilities on the basis of interpretation of literary sources will be inaccurate and misleading. It will be possible to make such a real assessment after developing an all-year monitoring over

the effect of the wind generators over the ornithofauna and it will be possible to assess the eventual losses commensurate with the number of populations and their annual growth.

At establishing during the conflict seasons of high concentration of birds migrating in a narrow front within the area of the wind power park, the facilities shall be switched off.

With observation of the recommendations and the measures for decrease of the negative consequences over the fauna within the region we consider that the adverse effects will be within reasonable admissible limits.”

Attention to most crucial aspect of mass bird migration is minimised. No methodology for collecting monitoring data, no criteria on ‘admissible limits’ (see also § 3.8.7.) . Suggested mitigating measure (switching off turbines during high migration intensity) proves that the authors are aware about the phenomenon.

To conclude: this report and similar contributions of these authors cannot be considered as acceptable for far reaching developments and permits of windfarms as both nature values and risks for biodiversity are highly underestimated.

ANNEX II

(comments on: **INOS-1 Ltd** . ENVIRONMENTAL IMPACT ASSESSMENT REPORT.

Investment Proposal: Wind Farm “Kaliakra” situated in the lands of Bulgarevo Village, the Municipality of Kavarna Design Phase: Feasibility Study.

(April 2005)

This is an extensive report on CD, including detailed information, descriptions, methodology, risk assessment, alternatives, mitigating measures, an international monitoring plan and conclusions.

Added are figures, maps and Annexes; most items are translated in English.