

Comments on: SER Environmental Report
Strategic Environmental Review of the Development of Wind Power in Bulgaria
Version: May 2010-05-21
Authors: Maria Mihaleva (attorney at law), Sebastian Noethlich

General Comments

Balance of Information, Data Sources, Stakeholder Consultations

The report has generally failed to strike a balance in the information that it uses the source of the data that it uses and the stakeholders that were consulted. From the report a clear bias in favour of environmental protection NGOs, first and foremost bird and bat protection NGOs, is apparent. The weight both in terms of the detailed attention they received, the weight by which their input is represented in the report and the weight attached to the corresponding objectives appears unfounded. This makes the conclusions and recommendations as well as the entirety of the report one-sided and special interest driven.

As can be seen from the table below the relative importance attached to the “flora, fauna and biodiversity” section outweighs all other negative receptors in extent (items) and weight (items & score). This appears arbitrary and subjective.

The report lists a total of 60 sources in the annex (excluding those sources that are listed as not (yet) obtained). Of those sources 95 % (57 of 60) are sources for flora, fauna and biodiversity. Of these 57 sources 44 are concerned with birds and bats only. This amounts to 73 % of all data sources of the report. In contrast to this three objectives go without data source while the remaining three all go with a single data source. From this it appears that no effort was made to strike a balance in the focus of the report, whatsoever.

Objective	Items	Total Score	Average Score	weight by items	even weight	Sources in Annex
Energy, Climate, Air Quality	4	70	17.5	17.4%	14.3%	0
Cultural Heritage	1	-3	-3	4.3%	14.3%	1
Flora, Fauna, Biodiversity	5	-63	-12.6	21.7%	14.3%	57
Soil, Water	4	-6	-1.5	17.4%	14.3%	1
Landscape	2	-24	-12	8.7%	14.3%	0
Public Health, Noise, Vibration	2	-2	-1	8.7%	14.3%	0
Socio-Economic, Material Assets	5	3	0.6	21.7%	14.3%	1
Total:	23	-25	-12.0	100.0%	100.0%	60

Given the repeated reference to their inability to obtain data sets concerning other objectives from the relevant authorities, it stands to reasons that the authors have thus allocated an undue and excessive amount of attention and importance to the single objective for which vast data was readily available.

In summary, given the relative weight and focus that the different objectives of the report received, the report does not amount to a strategic environmental review, it merely qualifies as an extensive though not necessarily verified study of birds and their potential though not necessarily verified sensitivities to wind power development.

Evaluation at the local level

While the effort made by the authors is commendable, the report itself repeatedly states that an effective addressing of the topic, namely the development of wind power and its impact, cannot be made at the national level. Instead, the report states, that this needs to be done at a local, case by case level. This appears to be the only sensible approach. Case by case environmental impact assessments, including where necessary bird monitoring, are the only adequate method to ensure the sustained future development of wind power in harmony with the interest of all stakeholders. In light of this the report including its conclusions, recommendations and GIS cannot be used as a decision making or strategy development tool. To do so would be dangerously in ignorance of the insufficient data and flawed balance of the report.

Resolution

The maps (data) are provided in inadequate resolution. Higher resolution maps (data) are not available. The ministries have not been provided with higher resolution maps (data) either. This means an informed appraisal of the conclusions of the report (the maps) is not possible. The maps were intended to be used as a decision making tool by state authorities. For this purpose the maps are not detailed enough.

No information on degree of certainty of data

The report identifies numerous areas where the baseline review relies on non-verified, non-cross checked or other data with a low or unknown degree of certainty. The report should contain a visual representation that identifies the level of certainty of the findings of the report. This should be done in a map that shades the results of the spatial constraint map according to their certainty. Without this users of the map have no way of identifying the solidity of the basis they use for decision making.

Recommendation

- A balance of negative and positive receptors/indicators should be struck in terms of number and detail of sources as well as representation and weight in the report
- Those relevant stakeholders that have not been consulted thus far should be consulted
- The data sets listed as unavailable or not yet received should be obtained or replaced appropriately
- Detailed data on the wind potential at adequate resolution should be gathered
- All available information from stakeholders, such as bird studies from developers, should be gathered and included in the report
- All modelled or approximated data sets should be verified by site surveys
- All datasets that are not yet independently verified should be independently verified
- Datasets that cannot be independently verified should be excluded from the report

- **Until the above recommendations have been implemented the report should not be used as a decision making tool or otherwise by any stakeholders**

Acknowledgements

not a single wind energy expert, association or firm appears to have been consulted

INTRODUCTION

page v

par. 4-5 adequate consultations with the wind energy industry have not taken place

par. 6 citing 46 fold increase is meaningless, increase relative to other EU nations is better alternative (i.e. what was added in Bulgaria compared to other EU nations relative to the respective market size)

page vii

bottom 30 day consultation period is not observed. Invitation was sent with 1 week notice and inadequate time to prepare

page viii

par. 1 there is no topic dealing with technical and economic constraints and feasibility of wind power projects

bottom consultations were not undertaken in relevant areas, not with large scale investors and relevant and experienced industry associations and firms

page ix

par. 4 "It is noted that no reliable information was available on wind potential in the country, and therefore this element could not be incorporated into the data analysis."

This means:

- predictions on page vi are made without base
- the map for the agricultural land ban cannot be realized
- the potential negative impact of the report on wind power development is unknown

par. 5 in light of par. 4 it cannot be possible to understand the likely impact of current wind power development in Bulgaria as neither potential nor the degree to which current projects are realizable can be understood

page x

2.1-7.5 what is the scientific basis for this level of significance

5.2 & 7.3 ascribing major negative impact on the visual value of landscape is subjective. Traditional wind mills have been parts of the landscape of countries for centuries and they are valued as such. The valuation of the visual value is up to individual taste. Ascribing negative value here and then citing 'no effects' for tourism is not coherent as tourism is arguably driven by the visual value of the landscape.

page xiii

par. 3 the relative weight of importance of various sensitivities is not clear. i.e. how important is the protection of birds vs. other animals vs. flora vs. landscape vs. wind power vs. EU 2020 targets

par. 4 the data for sensitivities was taken from special interest groups. It shows gaps and it was not cross-checked or otherwise verified. This makes the data set (maps) a dangerous 'special interest product' without any effort of balance and scientific verification.

Report recommends that the sensitivity classifications are verified between MoEW and MEET. This means as it currently stands the report cannot be applied as final.

par. 5 Report recommends periodic updating of data set with information from investors. Yet investors were not consulted in the initial preparation. This is not coherent and undermines the value and credibility of the report.

Page xiv

table the report affects the entire country. The scheduled meetings are not representative of this fact. Their local focus is too narrow.

bottom The statements regarding rich heritage etc. should be backed by actual, quantitative and qualitative comparison to other nations. The same should be done to back the statements on the negative impact of wind power.

The statement that EIAs for highly sensitive areas are likely to be negative, should be backed up by data.

The report recommends that it after all information is cross checked it should be used to steer the development of wind energy. Given the prior statements that a) information on the wind power

potential is not available and that b) the data sets exhibit gaps, it is not reasonable to expect that the report can adequately be used to steer the development of wind power.

Page xv
par. 2

That wind potential data needs to be urgently gathered suggests that the report is not useful until this has been done and incorporated into the report.

SECTION 1

Page 1

Par.1 The statement is unfounded and unqualified. How many MW would have been at the same pace, how many MW would have been at lower pace? This statement exhibits bias in the report from the beginning.

Page 2

Par. 1 It is not reasonable to expect to understand the potential for impact of wind power without data for the potential for wind power.

Par. 2 ibid.

Par. 3 'useful basis for future planning and decision-making' is incoherent with gaps in data, non-verified data and missing wind potential data

Page 3

Objectives the objectives again are not compatible with gaps in the data, non-verified data and missing wind potential data

Page 4

Par. 1 wind industry stakeholders were not included in this process. Why?

Par. 3 the geographical scope of current and future developments cannot be evaluated without wind potential data and without consultation with the industry stakeholders. The report is without basis in this respect.

SECTION 2

Page 6

Par. 2 what is the data that was reviewed?

Par. 3 a division of the country into three zones is oversimplified and of no use for predicting wind power potential

Par. 5 States that wind potential data is inadequate, this means the report is without scientific basis for its predictions, evaluations and recommendations

Page 7

Par. 3 The production data is unrealistically low. It represents just above 1000 FLH whereas > 2000 FLH is typical. The data may be wrong.

Page 8

Table The assumption that all preliminary contract projects will go into operation is unfounded. Experience dictates otherwise. The assumption is technically impossible. The assumption of 2000 FLH for newly installed capacity is arbitrary and unfounded

The prediction of stable electricity consumption is unfounded and arbitrary.

Page 9

Par. 1 the assumption is unfounded, the conclusion meaningless.

Par. 2 The authors now rely on 'the wind conditions in Bulgaria' for their argument while before this stating that no adequate reliable information on the wind potential (conditions) is available. This means the argument is without basis. It contradicts the authors' prior statements. The statement is thus non-scientific and meaningless.

The comparison to three out of 27 EU countries is arbitrary and meaningless. Other countries far exceed the percentage, others are below.

Par. 3 The authors have made baseless predictions citing wind conditions of which the authors themselves have said that they are unknown and now these baseless predictions are used to underpin the importance of a strategy.

Page 10

Par. 3 The numbers of EWEA cited here conflict with the statements of the authors elsewhere that Bulgaria will reach the EU 2020 targets. The discrepancy is not reconciled.

Page 11

Par. 5 (2.5) what are the current and predicted trends and problems? What is the basis for their prediction?

SECTION 3

Page 14

Bottom

How were these topics chosen? Were any other topics rejected?

Page 15

Par. 4 (3.3)

wind developers / the wind industry was not (adequately consulted)

Page 16

Par. 5

wind data, grid access and other technical data is missing. This means the report as is, cannot be used as a 'useful basis for future planning and decision-making' (page 2 par. 3).

Page 17

Par. 1-2

predicting the environmental effects and assessing the likely impacts of wind power development is impossible as wind data, grid access and other technical data is missing. The predictions and recommendations are therefore unfounded and meaningless.

Par. 8

Relying on qualitative rather than quantitative information makes the report prone to subjectivity.

Page 20

Par. 3

The statement is not quantified, it is not founded and it is biased.

Page 22

Table 12

The scoring and the multiplying by values other than probabilities (i.e. 5, 3 or 1 instead of 0.9, 0.7 or 0.25) leads to an arbitrary distortion and overweighing of high characteristic, high probability effects. How were the scoring values of 1, 3 and 5 chosen? Why not 1, 2 and 3 or 0, 5 and 10?

Page 23

Par. 1

what wind experts were consulted?

Par. 3

elsewhere the authors' have set out why the report cannot be used to 'facilitate the development of wind power in Bulgaria'. Namely, because the relevant data is missing.

Bullet Point 3

data gaps identified again

Bullet Point 4

How did the report determine who qualifies as an expert? How was expert status verified? Who were the experts? The authors' say this is 'often the best way...'. How often? How accurate are the predictions on average? How much of the judgement was backed up by evidence?

SECTION 4

Page 25

Par. 2 Representative areas (Burgas, Momtchilgrad) were chosen on 'wind potential' and 'future wind energy developments'. This is impossible as the authors' repeatedly state that data on the wind potential does not exist.

Page 26

Par. 1 This statement is non-scientific. It's biased in favour of bird protection. Quantify great. Quantify 'one of the few'. And do a quantitative comparison of the respective bird populations.

Par. 2 The information given here is non-scientific. It is hearsay and speculative. A bird expert should know whether something is a feeding ground, a nesting ground or both for a bird. If an expert does not know this, they are arguably not an expert.

We have seen professional wind data from the area. The economic development of wind energy in this area, while locals may talk about it, is not possible.

Par. 3 Of what relevance are tensions between developers and NGOs? Why is this mentioned in the report?

Par. 3 and 4 The statements are not quantified. Define 'significant importance for bird protection'. Also define 'many endangered bird species'. Are 5 many? 50? 500? These paragraphs are colloquial, biased and unfounded

Page 27

Par. 1 What about other areas of the country all of which are affected by this report?

Page 29

Par. 7 guidelines for the future wind power development would need information about the wind potential. This does not exist, hence there should be no guidelines derived from this report.

Page 30

Table 2 Other stakeholders should be included in the final discussion.

SECTION 5

Page 33

Point 11 Quantification? Basis? How can this statement be made without data on the wind potential?

Page 35

Point 5 What is the distance? What dimensions of WTG are the underlying assumption?

Page 40

Point 3 Statement is not quantified

Point 8 Authors' state that reliable distribution maps for invertebrates, amphibians and small mammals exist. This makes the sensitivity maps guess-work.

Point 10 How were these species identified?

Page 41

The detail of bird migration, breeding and wintering data appears to far outweigh any other data included in the baseline review in extent and detail.

Page 42

Point 4 Which SPAs were included in the baseline review? The 22 or all 95 or 114? Why is the word "only" used here? In a neutral review this word should not appear here. It appears as if the baseline review is questioning the decisions of the government as to which SPAs included specific restrictions for wind power and which don't.

Point 9 What recommendations were these? Who provided them?

Point 14 Does this mean that the data has a resolution of 10 x 10 km at its best?

Point 15 How is a species identified as 'vulnerable to wind farms'? Who identified them as such? How was this verified? How is the practice in other EU nations? What data is available?

Page 43

Points 7-9 Non of the statements are quantified. These are opinions.

Page 45

Point 7 Quantify 'considerable'. This is an opinion.

All points How does this data bear relevance to the development of wind power?

Page 46

Points 1-5 How does this bear relevance to the development of wind power?

Point 6 Does this mean the creation of dust by construction vehicles?

Page 47

Point 8 What studies? How were they verified and cross-checked?

Points 9-12 How was the visual impact evaluated?

Page 48

Point 11 Detailed, 3rd party verified data on environmental noise levels for all relevant wind turbines is readily available from the manufacturers. Was this reviewed? If not, why was it not reviewed?

Point 13 What is the 'optimal' distance?

Page 50

Point 9 Does this mean no 'sensitive areas' with respect to tourism and recreation have been included in the report?

Point 10 Quantify 'substantial'. This is an opinion.

Point 14 Have areas of 'positive sensitivity' with regard to this point been identified?

Point 15 What data was used? How was it cross-checked and verified? Have areas of 'positive sensitivity' with regard to this point been identified?

Page 51

All points Are these effects positive or negative? Have areas of 'positive sensitivity' with regard to this point been identified? How were effects on wind power infrastructure identified?

Page 52-54

Section 3 How are these indicators / receptors quantified? They appear to be recommendations rather than quantifiable indicators useable for a balanced / scientific evaluation.

Page 54

Sections 4-5 The receptors / indicators imply a negative impact of wind power on all receptors and indicators. This is one sided. It leaves out positive contributions of wind power. It would appear that 'positive sensitivities' have not been identified.

Section 5.2.2 Who says that wind turbines lead to a loss in aesthetic value of landscape? What about added value?

Page 55

Section 7.1 What about positive impact on real estate values?

- Section 7.3 The report said prior to this that the impact on tourism was not considered. Now it is being considered. Which of the two is it? If it was considered, how was this done? How was the impact qualified and quantified?
- Section 7.4 How was this qualified and quantified?

SECTION 6

Page 56

Par. 1 “Evidence based” and “peer reviewed” appears to be in conflict with earlier statements that information was neither cross-checked nor verified and that ‘expert testimony’ was essentially accepted at face value.

Page 57

Par. 1 What is this expectation based on? How can the report have an expectation when data on the wind potential has not been available and was not considered?

What is the probability level in %?

Par. 2 ibid.

Page 58

Par. 1 ibid.

Par. 2 Since all individual impacts are positive the cumulative impact is not ‘likely’ but ‘certain’ to have a positive impact.

Par. 3 & Table If even data on the location was not available for all sites, how does the report arrive at a 50 – 90 % probability of an impact on these sites?

Since the impact (or lack thereof) depends on the location of future wind power developments and since data on wind potential is not available, how did the report identify the level of probability? This would require an expectation of future development locations. Such expectations would, however, be without scientific basis and amount to but opinions and guesswork.

Page 59

Par. 2 The report recommends that the impact on heritage sites should be considered at the local level as it is location specific and cannot be conducted at the national level. This means no respective sensitivity areas should be included in the report.

Par. 4 Does this coincide with actual experience from other EU nations? What has the impact on flora, fauna and biodiversity been in other EU nations with a larger share of wind power developed?

Table 24 All objectives would require knowledge of the location of future wind power development. This knowledge does not exist. Hence the probability levels of 50 – 90 % appear unfounded. Hence, as with heritage sites this should be evaluated at the local level.

How this matter, being inherently more fluid (birds move, heritage sites don’t!) can be dealt with at a national level, does not seem congruent with the conclusion regarding heritage sites.

The fact that heritage sites have one score while flora, fauna and biodiversity have five scores appears to be a random, subjective valuation by the report of the one versus the other.

How is the potential impact on the latter 21 times (63 vs. 3) more significant than the potential impact on the former?

Page 60

Par. 1 How is it unique? Are there other nations with the same or more?

Page 61

Par. 6 ‘Confirmed’ and ‘could’ would appear to be in conflict. The importance of the parameters and location of the wind power development are highlighted here. This means without knowledge of the future development of wind power and thus knowledge of the wind potential, no reasonable estimate of the impact of wind power on this objective can be formed.

Footnotes 38-40 are missing!

Par. 8 The statement is not quantified. Decreasing trends and ‘many’ species are meaningless to arrive at an informed evaluation.

Page 62

Par. 1 Quantify ‘there could be a significant effects’ in terms of likeliness and effect. This way the statement is non-scientific and pointless.

Par. 2 Quantify ‘may’. What is the likeliness and what is the likely statistical extent of this?

The suggestion that studies may be falsified by ‘wind farm wardens’ goes to document bias and subjectivity on part of the report. If this is an argument to be included in the report, than the fact that dead birds may be added by bird protection NGOs should be mentioned as well. This paragraph lacks scientific base and relevance.

- Par. 3 What is the relevance of these studies to Bulgaria?
The cited number of 125 birds is NOT the average for Belgium. It is the most extreme number cited for all of Belgium. The number is for a few select turbines. Namely:
During previous years, for a few wind turbines at the eastern port breakwater in Zeebrugge, up to 111 and 125 fatalities were calculated as a result of the correction factors for some small birds that were occasionally found (Everaert et al. 2002; Everaert 2003).
The further numbers are numbers for “Wind turbine locations with relatively large numbers of protected birds”. This is a distorted portrayal of data. This is not scientific. It is opinionated and subjective.
- Page 63
Par. 3 The Barrier Effect has recently been disproved by scientific studies. Migratory birds avoid arrays of wind turbines on a micro-location not a macro-location level. This means that the added energy expenditure for migratory birds is negligible.
It should be noted that not a single source is stated for this argument. This makes this effect and an un-supported hypothesis. Its inclusion in the report makes the report non-scientific and its findings ill suited for decision making.
- Page 64
Par. 4 The second part of the argument is made without source and contradicts the first source. This is not scientific. The 75 % figure or chance of collision is not backed up. The study by Winkelman (1992) cited earlier puts the risk of collision at between 0.005 % and 0.089 %.
- Page 65
Par. 2 The cited range of the impact (300 – 800 meters) suggests that the impact of wind power development is of a limited local range. This undermines the need and effectiveness of a nationwide strategic approach as attempted here. This is even more so given the lack of knowledge of wind power potential of the report.
- Par. 4 The use of the words ‘could’ and ‘may’ does not allow for the conclusion that ‘habitat loss is observed’. This is an opinion. It is not support by the arguments of the paragraph.
- Page 66
Par. 2 The report cites extreme examples (the most extreme in the world) here. This is not conducive to a scientific evaluation.
- Page 70
Par. 1 Can this be expected or IS it expected? How do wind turbines increase soil erosion?
Par. 4 The exact data is publically available from the website of the ministry. The authors of the report appear to not have researched this topic adequately. According to the numbers of the ministry of agriculture the amount of category 1 – 4 land potentially affected by wind power amounts to up to 0.017 %.
- Page 71
Bottom The report recommends, again, that an objective be taking into consideration on the local level as it cannot be dealt with at a national level. This, again, shows that the report cannot serve as a decision making tool at any level.
This further undermines the reports valuation of the impact of wind power on the landscape as a major negative. If the authors say that the impact cannot be evaluated at the national level, then how can they assign a value to its impact?
- Page 72
Par. 2 If only 12 % of people have concerns against projects in operation, then this means that 88 % of people are either indifferent or positively disposed to the projects. In light of this, this should be a positive rather than a negative receptor.
- Page 73
Entire page While the conclusion of the authors’ appears correct, there is in fact significant, detailed, 3rd party verified data on all the concerns listed. This data is available from turbine manufacturers. Its absence from the report goes to demonstrate the one-sidedness and bias of the report.
- Page 74
Entire Section The positive economic impact of wind power (employment, investment, tax revenue) are not discussed at all. Its absence from the report goes to demonstrate the one-sidedness and bias of the report.

The creation of hundreds of jobs, billions of Euro of investment and millions in tax revenue is valued at 1. This means the report values the negative impact of wind power as 63 times worse than the positive impact of wind power on employment and economy. This seems unbalanced and one-sided.

SECTION 7

Constraint Analysis

page 76

Par. 1 The introduction claims that “*data was formally requested from all relevant institutions, organizations and individual experts [...]*”. A review of the list of the data providers in **Appendix D**, though, leads to the conclusion that the choice of sources is one-sided and the data gaps are considerable to the extent to undermine the credibility of the provided data altogether.

7.1. Data gathering

The database is allegedly intended to provide MEET with “a solid scientific platform for development of a defensible and justifiable wind power development strategy”. The report, however, has failed to achieve this target since the collected database can neither be deemed to be defensible, nor justifiable as the sources have not been checked as stated repeatedly in the report.

Par. 4 The report lacks the objectivity essential for a “solid scientific platform” since the predominant part of the database is provided by environmental non-governmental organizations which have clearly conflict of interest with the other stakeholders in the renewable energy sector. Meanwhile the report states that the data from the governmental institutions is not up-to-date or verifiable (e.g. “lack of ...spatial data on key matters such as the location of the constructed wind turbines”).

7.2. Levels of area sensitivity

Par. 1 Since the “available information” is neither sufficient nor complete or justifiable (see the comments on Appendix D), the grounds of the suggested classification is, at best, questionable.

Black areas

Justification Unclear, no specific restrictions cited, only general comments without factual backup. Even though the paragraph is intended to be a summary, instead of presenting the criteria in brief, it lacks the criteria altogether.

Implications Unclear, general statement

Red areas

Justification No justification, only opinion on possible negative impact without grounds for the conclusion

Implications Based on the opinion listed above as “justification”. Thus the factual and scientific basis for the recommendations is unclear and questionable. Also, half of the main recommendations are redundant since the suggested measures already exist in the effective Bulgarian legislation.

Par. 2 The suggested centralized approach contradicts with one of the key principles of the Bulgarian Code of Administrative Procedure, namely, that the administration should provide efficient service and reduce the bureaucratic hurdles to business. Furthermore, no arguments are provided to justify that forwarding all applications for EIA to the MoEW will improve the quality of the EIA. Since the MoEW does not have the resources to administer properly the process, the only viable result of such concentration of authority might be overloading of the administration and significant delays in processing the applications and conducting the EIA procedures.

Page 78

Par. 1 to 3 Redundant. According to the Bulgarian Environmental Protection Act the EIA report is subject to public discussion whereas the access to the public discussion is not limited i.e. the suggested the participation of the “academic institutions, NGOs and other relevant stakeholders” is already granted by the current legislation. Furthermore, there are no arguments how the proposed listing of the stakeholders will serve to improve the EIA procedure.

Par. 4 Redundant. The MoEW has already issued instructions to the RIEWs (in February 2010, available on the website of the Ministry). Also, the requirement exists in the effective legislation.

Par. 5 No arguments are provided as to why the suggested “comprehensive inventory” is necessary. **Additional recommendations enlisted in Section 8.3.**

Orange areas

Justification No arguments or conclusions, only opinion on possible negative impact without grounds for the conclusion

Implications	No implications – only a recommendation that a “detailed analysis/research <u>should</u> be carried out”. Despite the lack of arguments, the Consortium goes on to recommend measures. Such recommendation is to be valued, at best, as an opinion without factual or scientific basis.
Par. 1	Not clear how the criteria of 100kW is selection and for what reasons.
Par. 2-4	Redundant. According to the Bulgarian Environmental Protection Act the EIA report is subject to public discussion whereas the access to the public discussion is not limited i.e. the suggested the participation of the “academic institutions, NGOs and other relevant stakeholders” is already granted by the current legislation. Furthermore, there are no arguments how the proposed listing of the stakeholders will serve to improve the EIA procedure.
Par. 5	Redundant. The MoEW has already issued instructions to the RIEWs (in February 2010, available on the website of the Ministry). Also, the requirement exists in the effective legislation.
Par. 6	No arguments are provided as to why the suggested “comprehensive inventory” is necessary. Additional recommendations enlisted in Section 8.3.
Yellow areas	
Justification	No arguments or conclusions, only general opinion on possible negative impact without grounds for the conclusion. Further, the data is not complete or sufficient.
Page 79	
Implications	No implications – only recommendations which are to be valued, at best, as an opinion without factual or scientific basis.
Par. 1	Not clear how the criteria of 100kW is selection and for what reasons.
Par. 2-4	Redundant. According to the Bulgarian Environmental Protection Act the EIA report is subject to public discussion whereas the access to the public discussion is not limited i.e. the suggested the participation of the “academic institutions, NGOs and other relevant stakeholders” is already granted by the current legislation. Furthermore, there are not arguments how the proposed listing of the stakeholders will serve to improve the EIA procedure.
Par. 5	Redundant. The MoEW has already issued instructions to the RIEWs (in February 2010, available on the website of the Ministry). Also, the requirement exists in the effective legislation.
Par. 6	No arguments are provided as to why the suggested “one-year inventory” is necessary. Additional recommendations enlisted in Section 8.3.
White areas	
Justification	No arguments or conclusions, only general opinion.
Conclusion	Considering the reservation about the quality of the database, the recommendations listed with regard to the sensitivity areas are, at best, questionable. The report lacks the objectivity and argumentation to be used as grounds for development of wind energy in Bulgaria.
Page 80	
7.3.1. Energy, Climate and Air Quality	
Par. 1	Key criteria for assessing the level of sensitivity of the areas are not researched since the underlying information is incomplete. Thereby, instead of undertaking a more diligent research, the Consortium chose to treat the missing data as one of “limited value”.
Page 81	
7.3.2. Cultural Heritage (Table 29)	
	Basis for inclusion: The reference to Article 50 and Article 65 of the Cultural Heritage Act is irrelevant with regards to grounds for inclusion. No arguments are provided such as to justify the classification of the monument with national significance as to the orange sensitivity area. No spatial data/sources have been researched.
Page 82	
Table 30	No spatial information is researched as for the location of the cultural monuments with national and local significance. Thereby it is unclear how this filter has been used to mark the sensitivity areas on the maps in the report since the only data available to the Consortium is the one for the World Heritage Properties. The recommendation about the check on case-by-case basis for buffer zones of cultural monuments is redundant – the Spatial Development Act effectively requires co-ordination of the construction of wind parks with the competent authorities of the Ministry of Culture.
Appendix D1	The appendix refers only to the World Heritage Properties, no comments/arguments are provided with respect to the cultural monuments with national or local significance.

Page 84

7.3.3. Flora, fauna and biodiversity (...)

Par. 2 No arguments are provided to back up the opinion of the Consortium that the separate analysis of the bird species is necessary beside the abundance of such data readily provided by the relevant NGOs. This approach is non-compliant with the requirement for objectivity which is material for the report.

Table 31 The reference to Annex 3 of Article 37 of the Biodiversity Act provides a general list of protected species - no arguments are provided for the classification of the conservation importance.

Page 85

Section 3.3. The red and black status of the sensitivity area is not justified by the cited reference to the Protected Territories Act. The latter provides that restrictions on construction might be imposed on case-by – case basis within the order for the specific protected area, not that construction is altogether prohibited.

Page 87

Section 3.5.2 The reference to Article 4 (2) of the Forest Act does not provide basis for inclusion. Furthermore, no data has been provided to back up the conclusions since it is still “expected”.

Section 3.5.3 The reference to Article 1 (2) of the Forest Act is a irrelevant – the general statement regarding the purpose of the law does not provide arguments to back up the choice of this type of sensitivity area. Again, no data has been provided to back up the conclusions since it is still “expected”.

Page 95

7.3.4.1. Legal basis for inclusion (re Bird species and birds related areas)

Par. 1 The cited Bird and Habitat Directives are incorporated in the Bulgarian Biodiversity Act.

Page 96

Section 2 No reliable data is available to determine the migration corridors. Despite the “insufficiently studied” migration corridors, it is “believed” that whenever proper studies are done they will confirm the conclusions of the NGOs protecting birds. Following the logic of this approach a study commissioned by investors in wind parks will confirm that there are no significant migration corridors within the territory of the Bulgaria.

Section 3 Despite the statement that the migration corridors are “relatively poorly studied”, the conclusion is that wind energy will cause “high risk” for migrating birds.

Staging areas (...)

Par. 1 The data is incomplete. No reliable data is available except for six globally threatened species.

Page 100

Special Protection Areas

Par. 4 The reasoning is flawed. If the respective protected area requires special restrictions on construction, such restrictions are to be included in the order for the respective protected area. The precautionary principle is unjustified.

Page 113

Public health, noise and vibration (Table 36)

No data is available although it is expected to be provided by the Ministry of Agriculture and Foods.

7.5. Composite Constraints Analysis

Par. 2 No arguments are provided as to why agricultural lands of first through fourth category are to be classified as “areas with explicit legislative prohibition for wind power development”. Currently, there is no such restriction in the Protection of Agricultural Lands Act. Indeed an amendment to that respect is proposed but the merits of this bill are highly questionable and it is unlikely that a general ban for re-designation of lands of first through fourth category will be approved by the Bulgarian Parliament. The conclusion of the report is another evidence of the one-sided approach applied in its drafting that undermines its value as basis for the wind energy development strategy of MEET.

Par. 6 Considering the reservation about the reliability of the database used for the report and the recommendation for cross-check, the conclusions and recommendations of the Consortium are questionable. Thus, the report has failed to achieve one of its objectives e.g. to serve as a basis for the national plan for development of renewable energy in Bulgaria.

Par. 7 The report cannot be used for a “starting point” by the MEET because (i) the underlying data is incomplete and unverified; (ii) the conclusions are not justified with arguments but with opinions and (iii) the approach applied in compiling the data and reaching the conclusions is one-sided and lack objectivity essential for every scientific research.

7.6. Limitations of the performed spatial constraints analysis

As discussed above, the reservations about the accuracy and reliability of the database used for the report undermine the conclusions and the classification of the sensitivity areas suggested by the Consortium. The argument that verification of the underlying data is not within the scope of the assignment, does not justify the one-sided approach and the random choice of recommendations.

7.7. Recommendations

- Par. 2 The reasoning is flawed. As discussed above in the report (i) there is no reliable study of the wind potential that covers the territory of the entire country and (ii) such study is to be made on cas-by-case basis by the investors.
- Par. 3 The recommendation to the MEET and MoEW to undertake calculation of the wind potential is unrealistic as discussed above. Moreover, this approach is not appropriate for a market-based economy.

SECTION 8

Page 128

Par. 5 If the significance of the recommended mitigation measures can only be assessed in individual EIAs, then how were they chosen and why are they mentioned here at all?
If the mitigation measures can only be assessed case by case, then why is it that the report can assess the impact at a national level nonetheless?

Page 129

Par. 3 This means that the authors have made no effort to investigate the one objective for which they identify wind power as having only significant positive effects. This goes to demonstrate a focused effort of the authors to make the report about negative impacts rather than finding a balance.

Point 8.1.2. This is already the case.

Bottom This is already the case.

Page 130

Turbine Shut Down This is not a viable solution. The economic risk cannot be evaluated. This makes debt financing of projects impossible. Further the statistical chance of a collision with a rotor blade is virtually the same regardless of whether the turbine has been shut down or now.

Fencing This recommendation demonstrates that the authors have made little effort to understand the parameters of wind power projects in any detail. Wind turbines do not need fencing. As fencing would simply amount to a useless additional cost, it will be avoided naturally. Fencing is required for ground level high voltage installations. These are substations. For those fencing is mandatory for good reason, given the risk of electrocution for humans and animals alike.
This means this recommendation is ill-informed, it is dangerous and negligent.

Decommission This is already reasonable standard practice. No longer operating turbines represent residual value and their removal is in the economic interest of their owner.

Page 131

Landscape This is already standard practice. Significant negative effects on the landscape are a subjective valuation and not backed up by the data cited by the report (12 % concerned people after construction). The location of wind turbines in industrial areas is non-logical as it runs counter to restrictions that the report cites regarding minimum distances to built-up areas. Also, industrial areas have high terrain turbulence levels stemming from buildings which make them ill-suited for wind power development.
Access of the public to visualizations for consultations is already part of the EIA procedure. The recommendation is redundant.

Page 132

Noise Redundant. The recommendations regarding minimum distances, inclusion in the EIA procedure and sound insulation and optimization are all already part of standard practice. The report appears to be under the impression that developers or investor may be able to modify turbines irrespective of certification and safety concerns.

Page 133

Shadow Flicker Redundant. This is already standard practise.

Socio-Economic The recommendations are blatant generalizations without any applicable character. Some of the recommendations belong in other areas. It appears that the report has chosen not to focus on this objective.

Page 134

Section 8.3. Redundant. The recommendations and concerns here have already been addressed by the authorities and are part of current standard practice.

Page 139

Bird Protection 2 year field studies are economically non-viable. The recommendation of a general minimum term runs counter to the realization that these issues need to be dealt with on a case by case basis.
Requiring 2 year terms from now on would with certainty lead to Bulgaria falling short of the EU

2020 interim targets along with the corresponding costs to the country. The attention and detail that the bird protection topic receives in the recommendations section is again exemplary of the exaggerated weight it has received compared to other topics.

Page 140

Landscape

It is paradoxical to say that the topic was not addressed yet still to draw conclusions. This amounts to nothing more than unfounded, non-informed opinions of the authors.

Public Health

Redundant.

SECTION 9

Page 143

Par. 1-2 This is a platitude. In fact Bulgaria is an exception to this. Wind power has not developed for most of the past two decades in Bulgaria at all. This would in fact be the reason why the current development may be misinterpreted by many stakeholders.

Par. 4 The method by which the relative impact on different objectives is weighted vis-à-vis each other is arbitrary.

Par. 9 Not all relevant stakeholders were consulted. This means a crucial component is missing from the analysis.

Page 144

Par. 1 The scoring system is flawed in that different areas of impact have a different number of sub-items. Instead of averaging the scores of the sub-items the report appears to sum them in order to arrive at its conclusions.

Par. 5 The quality of the data should be included in the GIS to make this information readily accessible and to allow users of the GIS to arrive at an informed evaluation of the output of the GIS.

Bottom This means that the current data set is prone to included unverified, special interest driven information. As such it represents a one-side, 'wind negative' evaluation. This in turn can lead to major, unwanted, negative consequence for the nation as a whole when the data set is used by decision makers under the assumption that it does in fact represent an informed, crosschecked and verified scientific consensus.

Page 145

Par. 5 A map of the national grid and available grid capacity will be helpful. A map of adequate resolution for the wind potential cannot be prepared in a timely manner and at a reasonable expense by the government. The risk and expense of doing so are best located with the developers.

ANNEX D

Page bb	The data quality seem to be overstated considering that a downloaded map was digitized instead of the use of underlying data. What is the (border) accuracy of this data set?
Page cc	The data set is based on one single expert who is a declared 'wind opponent'. Data was prepared in Google earth meaning without on-site verification on all cases and based on outdated satellite imagery. The data quality should hence be low.
Page dd	Single source, not verified, not crosschecked
Page ee	Single source, not verified, not crosschecked Some of the information is based on computer simulations without any actual site survey
Page ff	Single source, not verified, not crosschecked Some of the information is based on computer simulations without any actual site survey
Page gg	Single source, not verified, not crosschecked Some of the information is based on computer simulations without any actual site survey
Page hh	Single source, not verified, not crosschecked The data resolution is not useable (10 x 10 km)
Page hh	Single source, not verified, not crosschecked The data resolution is not useable (5 km center points)
Page kk	The data set contains the proposed (not just the actual) SCIs!
Page mm	Single source, not verified, not crosschecked (3 rd party) Resolution / accuracy not clear
Page nn	Single source, not verified, not crosschecked
Page oo	data for special designation forests has not been used / obtained from forest agency stating .zem file conversion problems
Page pp	data for forest areas has not been used / obtained from forest agency
Page ss	The BSPB database is not 3 rd party verified. The accuracy of bird observations recorded by 'bird observation enthusiasts' may be doubted.
Page tt	The data set is largely insufficient as per the statement of the authors.
Page uu	Single source, not verified, not crosschecked, not quantified, approximate
Entire bird section:	largely: Page uu Single source, not verified, not crosschecked, not quantified, approximate
Page aaaa	data missing
Page bbbb	data missing
Page dddd	data missing This means no accurate data set was used for the 500 m black zones around settlements. It is not clear how the black zones were added to the maps despite the absence of this data set.
Page eeee	data set omits some restricting installations