GAP Analysis Report

“Compliance of Environmental and Social Precautions in Karacabey Wind Power Project with World Bank’s Safeguard Policies and Environmental and Health and Safety Guidelines”
By:

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Executive Summary

Yalova Rüzgar Enerjisinden Elektrik Üretim Anonim Şirketi (Yalova) plans to invest into Karacabey WPP (hereafter refers Karacabey WPP) in the district of Karacabey, Bursa, Turkey. The proposed project has 27.9 MW installed capacity with 12 turbines having 2.5 MW power capacities each.

The report at hand provides a gap analysis which results from comparison of World Bank Safeguard Policies and Environmental and Health and Safety Guidelines of the Worldbank Group and the documents listed under section 2. The reports prepared by Yalova covers ecosystem of the project region which are Ornithology Report, Floristic Diversity and Fitoecological Assessment Report, Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report. Thus, aforementioned reports, documents and studies are reviewed in details with parallel to safeguarding policies of the World Bank targeting to put similarities and gaps in comparison.

The result of the gap analysis report outlines that there is compliance of the project with requirement of World Bank by safeguarding policies and Environmental and Health and Safety Guidelines for wind power projects.
1 Introduction

Yalova Rüzgar Enerjisinden Elektrik Üretim Anonim Şirketi (Yalova) aims to invest into a new wind power plant called Karacabey Wind Power Project (hereafter refers Karacabey WPP) in Karacabey district of Bursa city, Turkey. While the proposed project will have 27.9 MW installed capacity with 12 turbines, each turbine ranks 2.5 MW power.

With an aim to analyse the environmental and social impacts, Yalova had already conducted several environmental and social analyses which are the subject of this report. The most important studies done by Yalova for Karacabey WPP are three reports which consists of Ornithology Report, Floristic Diversity and Fitoecological Assessment Report, Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report.

The aim of this Gap Analysis Report is to provide a detailed analysis on the compliance of the reports prepared by Yalova for Karacabey WPP with World Bank Safeguard Policies and the Worldbank Group Environmental and Health and Safety Guidelines for Wind Power Project. For this reason, the aforementioned reports are analysed in details with parallel to safeguarding policies of the World Bank targeting to put similarities and gaps in comparison.

As the first section of the Gap Analysis Report describes the project by location and technical specifications, the second section provides short summaries of the aforementioned reports prepared by Yalova. The third section goes in details to compare the requirements by World Bank’s safeguarding policies with existing reports of the project and commitments of Yalova to mitigate negative impacts of the project. The aim of the third section is to put forward the gaps in between and create a base for the recommendations for further actions. Final section of the report consists of recommendations for the gaps found with the comparisons of the World Bank safeguarding policies and commitments of the project.
2 Methodology

Gap Analysis consisted of the following phases:

- Listing of requirement by World Bank Safeguarding Policies and the Worldbank Group Environmental and Health and Safety Guidelines for Wind Power Project
- Reviewing environmental reports and studies done by Yalova for Karacabey WPP
- Reviewing related regulations that compel the project to comply with environmental and health and safety requirements.
- Analysing and stating the gaps between reviewed documents which are listed in table 1 and requirements of World Bank

2.1 Document Review

Following table provides the list of the documents that were reviewed during Gap Analysis:

**Table 1: Documents reviewed**

<table>
<thead>
<tr>
<th>Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Ornithology Report by Prof. Dr. Levent Turan, December 2011.</td>
</tr>
<tr>
<td>2  Floristic Diversity and Fitoecological Assessment Report, Biologist Prof. Dr. Latif Kurt, 2011</td>
</tr>
<tr>
<td>3  Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report, December 2011</td>
</tr>
<tr>
<td>4  Karacabey WPP Project Introduction File by PPM, which is prepared to get &quot;EIA is not required document&quot;, December 2012.</td>
</tr>
<tr>
<td>5  Commitments by Yalova for Wildlife Development Zone which is submitted to Ministry of Environment and Forestry, Directorate of Nature Protection and National Parks</td>
</tr>
<tr>
<td>6  Implementation Regulation for 17th and 18th article of Forestry Law</td>
</tr>
<tr>
<td>7  The map of the road and commitment of the engineering company</td>
</tr>
<tr>
<td>9  Shadow Flicker and Balde Glint Validation and Mitigation Study, EnerGY, 2013</td>
</tr>
<tr>
<td>10 Environmental, Health, and Safety Guidelines for Wind Energy, IFC, April 2007</td>
</tr>
</tbody>
</table>
3 Description of the Project

Yalova won the licence right of Karacabey WPP in the tender of TETC (Turkish Electricity Transmission Company) in September 2011. The licence of the project allows for construction of a plant with 27.9 MW installed capacity, where the capacity of each turbine and micrositting of the project could be altered as it is required. The project had initially been designed with 27 turbines in the year of 2011. However the design is revised with less turbines and higher capacity each.

This section of the report provides a detailed description of the project location and technical specification about the project.

3.1 Location of the Project

Karacabey WPP is located 8 km in the north of Karacabey district and 30 km in the south east of Bandırma district of Bursa City. The project area lies in between of Akçakoyun, Güngörmez, Yanış and Çenk villages as a corridor from north to south.

Map 1: Location of the project and closest settlement to the project.
The closest settlement to the turbine is located in Güngörmez village and the distance is 756 metre per map below.

Map 2: Closest Settlement and Micrositting of the Project

The Project area consists of forestry and private lands where the location of 1-4 turbines is defined as “Karacabey Karadağ Ovakorusu Wildlife Development Area” and “Sustainable Usage Region”\(^1\). The closest wetland to the project is Bayramdere Small Lake which is 2 km far from the turbines.

Some pictures from project area are as follows:

\(^1\) Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report of the Karacabey Project, page: 15.
Picture 1: A general picture from forestry and private lands.

Picture 2: A view from Karacabey Karadağ Ovakorusu Wild Life Development Area
**Picture 3**: Bayramdere Small Lake which is 2 km far from project.

As a conclusion the project area consists of different properties located on hilly region which belongs to forestry and private owners. While some part of project location situated in wildlife development zone, the revision of the project reduced the number of turbines that exist in this area. Reduction in the number of turbines from 27 to 12 pieces expected to reduce environmental and social impact as well.

### 3.2 Technical Description of the Project

The initial design of the Project consist of 27 turbines which are rated 900 kW and 1.5 MW. The design change has reduced numbers of turbines to 12 pieces rated 2.5 MW each. Specification of the turbines which are planned to be contracted is as below:

**Table 2**: Wind Farm Specification

<table>
<thead>
<tr>
<th>Wind Farm Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind Turbine Manufacturer</td>
</tr>
<tr>
<td>Wind Turbine Model</td>
</tr>
<tr>
<td>Wind Turbine rated Power</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td>Quantity of Wind Turbines</td>
</tr>
<tr>
<td>Hub Height</td>
</tr>
<tr>
<td>Rotor Diameter</td>
</tr>
</tbody>
</table>

The project is planned to be connected via a 34.5 kV transmission line to transformer centre in Karacabey which is 11 km away from the project. The map of route of transmission line is provided below, where the line passes over forestry and agricultural lands.

**Map 3:** The route of transmission line.
4 Summaries of the Studies done By Yalova

Although the project has “Environmental Assessment is not required” document, Yalova already undertook several studies to analyse the impact of the project on local environment. These studies are Ornithology Report, Floristic Diversity and Fitoecological Assessment Report, Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report. This section of the Gap Analysis Report will provide short summaries of the reports before passing to the analysis of the gap in following section. The requirements stated in ecosystem assessment reports were already committed by Yalova as notarized deed of commitment which is submitted to Ministry of Forestry and Waterwork, General Directorate of Nature Conservation and National Parks.

4.1 Ornithology Report

The ornithology report for Karacabey WPP project is prepared by Ornithology Prof. Dr. Levent Turan in the year of 2011. The report was aimed to analyse the impact of the project on local and migrating birds in Ovakorusu Wildlife Development Zone and project area.

Besides a part of Karacabey WPP being in the wildlife development zone, there are also wetlands such as Ulubatlı Lake (14 km) and Manyas Bird Lake (27 km) close to project area, which are important habitats for local and migrating birds. While the report list all species of local birds in the region, it underlines that the turbine being built on hills gives room of a safe route in valleys for local and migrating birds and do not create an important barrier for their mobility.

According to the report, the target species of the wildlife development zone is Phasianus colchicus and capreolus capreolus which are not expected to be negatively impacted by the Project activity. Ornithology report also underlines that there is no endemic species living in the Project area and neighbouring areas.

4.2 Floristic Diversity and Fitoecological Assessment Report

Floristic Diversity and Fitoecological Assessment report was prepared by Biologist Prof. Dr. Latif Kurt in the year of 2011. The report aims to analyze floristic and fitoecologic character of the project area by a field research and literature review.

While the report analysis floristic diversity of project area, the list of floristic species are provided in the report which is based on both literature review and field research. According to the report, while there are 8 endemic floristic species in the project area,

1 Complete set of comitted measures is given in Appendix 2 (in Turkish)
there is also 1 species which is protected by Bern Convention. The report also highlights that the specie protected by Bern Convention is not under endemic danger.

Floristic Diversity and Fitoecological Assessment report analysis the impact of the project on flora in two categories such as electro mechanic and loss of habitat. According to the report there is no negative impact of electro mechanic while the electricity lines within the project and between turbines will pass underground, but there will be loss of habitat due to construction of turbines and roads. Thus, the report provides some recommendation during both construction and operation which are collection of seeds and transfers to seed’s bank, precautions to avoid erosion and enabling ecological restoration in the project area.

4.3 Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report

Fauna of Terrestrial Vertebrate and Ecosystem Assessment Report was prepared by Zoolog Prof. Dr. Ali Erdoğan in December 2011. Main aim of the report is to analyze the impact of the project on fauna of the region which includes Terrestrial Vertebrate of the region. For this reason, the team of the report had conducted a field research including meeting with local people from villages of Güngörmez, Yarış, Kulakpinar and Dağesemen.

The report provides a list of Terrestrial Vertebrate which categorized according to IUCN, Bern Convention, CITES and Ministry of Forestry and Waterwork, General Directorate of Nature Conservation and National Parks. The report also analyzes whether there is endemic species in the region besides providing recommendation for negative impacts of the project on fauna of the region.

Through the research and field work of the report, it is concluded that the location of the turbines is far from the habitat of mammals, thus the project is expected to have minimum impact on habitat of mammals. While the most important group of mammals affected by wind energy stated in the report is bats, there is no habitat of bats around project location. Thus, there is no expected negative impact of project on bats either. The final part of report provides analysis on birds where a negative impact is not expected for local and migrating birds.

The next section of the report provides a matrix that compares the requirements by World Bank’s safeguarding policies with existing reports of the project and commitments of Yalova to mitigate negative impacts of the project.
5 Matrix of Comparisons

There are 10 safeguard policies, comprising the World Bank’s policy on Environmental Assessment (EA) and policies on: Cultural Property; Disputed Areas; Forests; Indigenous Peoples; International Waterways; Involuntary Resettlement; Natural Habitats; Pest Management; and Safety of Dams.

As the project activity is electricity generation using wind energy, to be built in Bursa province of Turkey, safeguard principles below are not applicable to the project:

1) Disputed Areas: The project area is not a disputed area
2) International Waterways: The project does not involve use or potential pollution of international waterways,
3) Pest Management: The project activity does not use pesticide.
4) Safety of Dams: The project facilities do not include any dam.

For the following 5 principles, an assessment and gap analysis is provided in Table 2 of Matrix of Comparisons:

1) Natural Habitats
2) Forests
3) Cultural Property
4) Involuntary Settlement
5) Indigenous Peoples

For the Environmental Analysis; Environmental, Health, and Safety Guidelines for Wind Energy is used and analysis is performed separately in Table 3.
### 5.1 Table 3: Matrix of Comparisons for Natural Habitats, Forests, Cultural Property, Involuntary Settlement, Indigenous Peoples

<table>
<thead>
<tr>
<th>Safeguarding principles</th>
<th>Description</th>
<th>Relevance to the project</th>
<th>Assessment of the project with regards to the principles</th>
<th>Conclusion</th>
</tr>
</thead>
</table>
| Natural Habitats         | **Natural habitats** are land and water areas where (i) the ecosystems' biological communities are formed largely by native plant and animal species, and (ii) human activity has not essentially modified the area's primary ecological functions. (OP 4.04 paragraph 1(a))  
**Critical natural habitats** are:  
(i) existing protected areas and areas officially proposed by governments as protected areas (e.g., reserves that meet the criteria of the World Conservation Union [IUCN] classifications), areas initially recognized as protected by traditional local communities (e.g., sacred groves), and sites that maintain conditions vital for the viability of these protected areas (as determined by the environmental assessment process); or  
(ii) Sites identified on supplementary lists prepared by the Bank or an authoritative source determined by the Regional environment sector unit (RESU). Such sites may include areas recognized by traditional local | **RELEVANT**  
Part of the project area located in Karacabey Karadağ–Ovakorusu Wildlife Development Zone which is also called sustainable Utilization Zone. | Some of the project area and turbines of the project stay in “Bursa Karacabey Karadağ–Ovakorusu Wildlife Development Zone”, which is a nationally development zone with target species of pheasant.  
Being one of the administrative units for the development zones, no objection letter of General Directorate of Nature Conservation and National Parks (“General Directorate”) needs to granted in order to start implementation of project activity. Preliminary letter of the General Directorates indicates that the project activity in the area is permitted only if the assessment reports to be prepared for the project activity by an Ornithologist, a Zoologist and a Botanist, each from different universities, concludes that the project activity will not pose any threat to the target species or other species in the development zone and will not have negative impact to the ecosystem or migrating any negative | **NO GAP**  
Although the project area partially with in the Bursa Karacabey Karadağ–Ovakorusu Wildlife Development Zone, expert reports prepared concludes that the project activity will not involve the significant conversion or degradation of critical natural habitats, provided that identified measures will be implemented appropriately during construction and operation.  
Thus, project activity has sufficient ecological studies to fulfil the |

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communities (e.g., sacred groves); areas with known high suitability for biodiversity conservation; and sites that are critical for rare, vulnerable, migratory, or endangered species.\(^4\) Listings are based on systematic evaluations of such factors as species richness; the degree of endemism, rarity, and vulnerability of component species; representativeness; and integrity of ecosystem processes. (OP 4.04 Annex A Definitions)

The Bank does not support projects that, in the Bank’s opinion, involve the significant conversion or degradation\(^3\) of critical natural habitats. (OP 4.04 paragraph 4)

Three assessment report is prepared for the project activity and impact of it on environment:

1. **Fauna Report**: Karacabey WPP and Terrestrial Vertebrate Fauna and Ecosystem Assessment Report, prepared by Prof. Dr. Ali Erdoğan, Akdeniz University in December 2011.


3. **Ornithology Report**: Karacabey WPP Ecosystem Assessment Report - Ornithology Section, prepared by Prof. Dr. Levent Turan, Hacettepe University in December 2011.

All of the reports given above conclude that the project is not expected to have permanent, unpreventable and significant negative impacts on the ecosystem provided that identified measures to be implemented appropriately. Complete set of measures, identified

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\(^1\) Please see Appendix 1.
by these reports for protection of ecosystem are combined within a notarized deed of commitment and submitted to Ministry of Environment and Forestry, Directorate of Nature Protection and National Parks.

Finding the reports and conclusions satisfactory and receiving the deed of commitments, the General Directorate provided no objection letter to the project company.

| Forests | The Bank does not finance projects that, in its opinion, would involve significant conversion or degradation of critical forest areas or related critical natural habitats. If a project involves the significant conversion or degradation of natural forests or related natural habitats that the Bank determines are not critical, and the Bank determines that there are no feasible alternatives to the project and its siting, and comprehensive analysis demonstrates that overall benefits from the project exceed costs of the project within the Bank's acceptable range, the Bank may provide financing

**RELEVANT**

Some of the project area is identified as forest area.

Some of the project area shows areas where some of the turbines will be installed covered by trees. Although, there is no information and study on how many trees will be affected by construction of the project activity, the related regulation to get permission from forestry enforce Yalova to identify the numbers of trees to be cut down and pay the fee for replantation.

**NO GAP**

Some of the project area is in the forests and thus may affect trees negatively. The number of affected trees and mitigation measure is defined with regulation. Thus there is no gap.

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1 Complete set of committed measures is given in Appendix 2 (in Turkish)

2 See Appendix 3 for the letter.


4 Please see the link for the document: [http://www.ogm.gov.tr/ekutuphane/Yonetmelikler/Orman%20Kanununun%2017%20ve%2018%20inci%20Maddelerinin%20Y%C3%B6netmeli%C4%9Fi.pdf](http://www.ogm.gov.tr/ekutuphane/Yonetmelikler/Orman%20Kanununun%2017%20ve%2018%20inci%20Maddelerinin%20Y%C3%B6netmeli%C4%9Fi.pdf)
substantially outweigh the environmental costs, the Bank may finance the project provided that it incorporates appropriate mitigation measures.\textsuperscript{7}

6. The Bank does not finance projects that contravene applicable international environmental agreements.\textsuperscript{8}

| Physical Cultural Resources | Physical cultural resources, are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community. When the project is likely to have adverse impacts on physical cultural resources, the borrower identifies appropriate measures for avoiding or mitigating these impacts as part of the EA process. These measures may range from full site protection to selective mitigation, including salvage and documentation, in cases where a portion or all of the | NOT REVELANT | N/A |

\textsuperscript{1} Appendix 4

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According to letter of Regional Branch of Cultural and Natural Assets Protection Commission, there are not any physical cultural resources in the project area.\textsuperscript{4}
Involuntary Resettlement may cause severe long-term hardship, impoverishment, and environmental damage unless appropriate measures are carefully planned and carried out. For these reasons, the overall objectives of the Bank’s policy on involuntary resettlement are the following:

(a) Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.  

(b) Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs.

(c) Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels

<table>
<thead>
<tr>
<th>Involuntary Resettlement</th>
<th>NOT RELEVANT</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
</table>
|                          | No resettlement in the project area.  
Being a wind power project, the project facilities includes turbines, roads and transmission lines. None of these facilities needs or results with resettlement. |     |     |     |

1 Please refer to Project Description section for further information on the project area.
prevailing prior to the beginning of project implementation, whichever is higher.\(^4\)

| **Indigenous Peoples** | A project proposed for Bank financing that affects Indigenous Peoples requires: (a) screening by the Bank to identify whether Indigenous Peoples are present in, or have collective attachment to, the project area (see paragraph 8); (b) a social assessment by the borrower (see paragraph 9 and Annex A); (c) a process of free, prior, and informed consultation with the affected Indigenous Peoples’ communities at each stage of the project, and particularly during project preparation, to fully identify their views and ascertain their broad community support for the project (see paragraphs 10 and 11); (d) the preparation of an Indigenous Peoples Plan (see paragraph 12 and Annex B) or an Indigenous Peoples Planning Framework (see paragraph 13 and Annex C); and (e) disclosure of the draft Indigenous Peoples Plan or draft Indigenous Peoples Planning Framework (see paragraph 15). | NOT RELEVANT | N/A | N/A |
5.2 **Table 4:** Matrix of Comparisons for Environmental Analysis; Environmental, Health, and Safety Guidelines for Wind Energy

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Description of Principles</th>
<th>Assessment of the project and project documents with regards to the principles</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environment (Industry-Specific Impacts and Management)</strong></td>
<td></td>
<td></td>
<td>No GAP</td>
</tr>
<tr>
<td><strong>Visual Impacts</strong></td>
<td>Depending on the location and local public perception, a wind farm may have an impact on visual resources. Visual impacts associated with wind energy projects typically concern the turbines themselves (e.g. colour, height, and number of turbines) and impacts relating to their interaction with the character of the surrounding landscape. Prevention and control measures to address visual impacts include:</td>
<td>The distance of the turbines to the closest settlement is around 760 m (Güngörmez village). There are some agricultural lands and forests in the project area. Yalova undertook a study on visual impacts of the project on surrounding settlements by EnerGY in the year of 2013. The study analyses visual impact of the project and provides mitigation measures. According to the study, the project has visibility from two close villages, namely Yarış and Güngörmez. The study claims that while the view from Güngörmez is negligible because only top of 4 turbines are visible. Whereas in Yarış village, all turbines are visible from the centre but they constitute continuity only in west part of the village. The visual impact study has analysed the impact of the Project taking into consideration following</td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Consult the community on the location of the wind farm to incorporate community values into design;</td>
<td></td>
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<tr>
<td></td>
<td>· Consider the landscape character during turbine siting;</td>
<td></td>
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<tr>
<td></td>
<td>· Consider the visual impacts of the turbines from all relevant viewing angles when considering locations;</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>· Minimize presence of ancillary structures on the site by avoiding fencing, minimizing roads, burying intra project power lines, and removing inoperative turbines;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Avoid steep slopes, implement erosion measures, and promptly revegetate cleared land with native species only;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>· Maintain uniform size and design of turbines (e.g. direction of rotation, type of turbine and tower, and height);</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Paint the turbines a uniform color, typically matching the sky (light gray or pale blue), while observing marine and air navigational marking regulations;
- Avoid including lettering, company insignia, advertising, or graphics on the turbines.

points:
- Project Visibility, Appearance and Landscape Context.
- Scenic-Resource values and sensitivity levels: visual diversity, intactness (order), focal points and unique visual resources
- Assessment of Aesthetic Impact: Landscape characteristics (Duration, Angle of view, Panoramic versus Narrow view, Scenic Quality view, Focal point within a view and number of observers) and Project Characteristics (scale, number of turbines in view, visual clutter, visibility of project infrastructure)

The study concludes that As far as Karacabey Project is considered, the visual impact of the Project is negligible to its surrounding and it can be an acceptable Project. It also states that as a result of the analysis with stated indicators, it can be argued that, the Project has minimal visual impact both to the nearest residential areas and its surrounding.

The study also provide mitigation measures such as appropriate
| Noise | Measures to prevent and control noise are mainly related to engineering design standards. For example, broadband noise is generated by air turbulence behind the blades and increases with increasing blade rotational speed. This noise may be controlled through the use of variable speed turbines or pitched blades to lower the rotational speed. Additional recommended noise management measures include:
1) Proper siting of wind farms to avoid locations in close proximity to sensitive noise receptors (e.g. residences, hospitals, and schools);
2) Adherence to national or international acoustic design standards for wind turbines (e.g. International Energy Agency, International Electrotechnical Commission [IEC], and the American National Standards Institute). | The project owner has a warranty agreement with wind turbine manufacturer to comply IEC 61400-11 ed. 2¹ (Wind turbine generator systems – Part 11: Acoustic noise measurement techniques; Second edition, 2002-12) The distance of closest turbine to the closest settlement (Güngörmez village) is around 760 m. According to calculations provided in the Project Information File, max. noise level to this distance will be 55 dBA during construction (Graphic 7, page 60) and around 43 dBA during operation (Graphic 8, page 64). Both levels are under legal limits, which are 70 dBA during construction² and 55 dBA (night) during operation³. | NO GAP
The project activity fulfils both recommendations indicated in ornithology report. Therefore, there is no gap between indicator and the report. |
|---|---|---|---|
| Species Mortality or Injury and Disturbance | Prevention and control measures to address these impacts include the following:
1) Conduct site selection to account for known | This indicator is also an issue of Natural Habitats Safeguarding Principles and a detailed | NO GAP
The analysis of these three indicators are already included in the ornithology report. |

¹ Equipment Contract, Exhibit-12
² PIF, page 60, Table 27
³ PIF, page 61, Table 28
**Shadow Flicker and Blade Glint**

Prevention and control measures to address these impacts include the following:

1. Site and orient wind turbines so as to avoid residences located within the narrow bands, generally southwest and southeast of the turbines, where shadow flicker has a high frequency. Commercially available modelling software can be used to identify a ‘zone’ of flicker and the wind farm can then be sited appropriately;

2. Paint the wind turbine tower with non-reflective coating to avoid reflections from towers.

A study on Shadow Flicker and Blade Glint validation and mitigation was carried out by EnerGY for Karacabey WPP in the year of 2013. The study states that shadow flicker is only present at distances of less than 1400 m from the turbine. The computerised analysis done in the study states that in both closest villages shadow flicker affect does not exceed 30 hours/year exposure which is a standard used in Germany. Thus the study concludes that the resulting effect is negligible.

Blade glint is an issue that should be considered in wind farm planning. It happens when sunlight reflects off turbine blades and into a person’s eye. The study report.

**NO GAP**

While the shadow flicker and blade glint impacts of turbines were analysed by the study of EnerGY and mitigation measures are presented, there is no GAP identified.
by EnerGY states that all major wind turbine blade manufacturers coat their blades with a low reflectivity treatment that prevents reflective glint from the surface of the blade. Even if there is no appropriate coating it is typically disappears when disappears when blades have been soiled after a few months of operation.

In Karacabey Project, Nordex turbines will be utilized. According to Nordex Documentation on “Standard Colors of Outside Components” provided via client, tower, nacelle, hub, spinner and rotor blades are painted in matt and grey colors.

<table>
<thead>
<tr>
<th>Habitat Alteration (from EHS Guidelines for Toll Roads)¹</th>
<th>Management practices to prevent and control impacts to terrestrial and aquatic habitats include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Siting roads and support facilities to avoid critical terrestrial and aquatic habitat (e.g. old-growth forests, wetlands, and fish spawning habitat) utilizing existing transport corridors whenever possible;</td>
<td>The study done by expert on mapping of the road for the project evaluated the alternative of the roads. The length of the planned project roads will be 4870 metre and the width is 10 metre. The map of the roads and commitment of the engineering company is added under reviewed documents</td>
</tr>
<tr>
<td>2) Design and construction of wildlife access to avoid or minimize habitat fragmentation, taking into account motorist safety and the behaviour and prevalence of existing species.</td>
<td>NO GAP</td>
</tr>
<tr>
<td>3) Possible techniques for terrestrial species may include wildlife underpasses, overpasses, bridge</td>
<td>While there is already a study on the roads of the project there is no gap for this principle.</td>
</tr>
</tbody>
</table>

¹ See: [http://www.ifc.org/wps/wcm/connect/7e4c7f80488554d5b45cf66a6515bb18/Final%2B-%2BToll%2BRoads.pdf?MOD=AJPERES&id=1323162564158]
extensions, viaducts, enlarged culverts, and fencing. Possible techniques for aquatic species include bridges, fords, open-bottom or arch culverts, box and pipe culverts;

4) Avoidance or modification of construction activities during the breeding season and other sensitive seasons or times of day to account for potentially negative effects;

5) Preventing short and long term impacts to the quality of aquatic habitats by minimizing clearing and disruption of riparian vegetation; providing adequate protection against scour and erosion; and giving consideration to the onset of the rainy season with respect to construction schedules;

6) Minimizing removal of native plant species, and replanting of native plant species in disturbed areas;

7) Exploring opportunities for habitat enhancement through such practices as the placement of nesting boxes in rights-of-way, bat boxes underneath bridges, and reduced mowing to conserve or restore native species;

8) Management of construction site activities as described in relevant sections of the General EHS Guidelines.

| Water Quality (from EHS General Guidelines) | Recommended soil erosion and water system management approaches include: Sediment mobilization and transport | The PIF states that the measures will be implemented to prevent soil erosion, affected areas will be revegetated and top soils will be gathered and used for gardening | NO GAP

Main construction activities for wind power plants are related with turbine bases and roads. Thus most of the

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1 See: [http://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES](http://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES) (section 4.0, page 89,90)
1) Reducing or preventing erosion by:
   a. Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical
   b. Contouring and minimizing length and steepness of slopes
   c. Mulching to stabilize exposed areas
   d. Re-vegetating areas promptly
   e. Designing channels and ditches for post-construction flows
   f. Lining steep channel and slopes (e.g. use jute matting)

2) Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.

Clean runoff management

1) Segregating or diverting clean water runoff to prevent it mixing with water containing a high solids content, to minimize the volume of water to be treated prior to release

Road design

1) Limiting access road gradients to reduce runoff-induced erosion

The project documents include prevention and control measures on wastewater and surface waters like rivers. According to PIF, the project owner committed that during the construction and operation periods there will be no impacts/intervention on rivers and river beds and excavation wastes will not be dumped into these areas. The PIF also states that the project owner commits compliance to Regulation on the Protection of Wetlands and Regulation on Control of Water Contamination, which aims the protection of surface and ground water resources and regulates the activities which might have impacts on these resources.

As the project documents include necessary measures and commitments for prevention of soil erosion and water system management, no additional study is necessary for compliance of the project to this indicator.

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1 PIF, page 112
2 PIF, Section 1.d
3 PIF, page 109, 122, 123
2) Providing adequate road drainage based on road width, surface material, compaction, and maintenance

**Disturbance to water bodies**

1) Depending on the potential for adverse impacts, installing free-spanning structures (e.g., single span bridges) for road watercourse crossings

2) Restricting the duration and timing of in-stream activities to lower low periods, and avoiding periods critical to biological cycles of valued flora and fauna (e.g., migration, spawning, etc.)

3) For in-stream works, using isolation techniques such as berming or diversion during construction to limit the exposure of disturbed sediments to moving water

4) Consider using trenchless technology for pipeline crossings (e.g., suspended crossings) or installation by directional drilling

**Structural (slope) stability**

1) Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented

2) Providing adequate drainage systems to minimize and control infiltration

### Occupational Health and Safety

<table>
<thead>
<tr>
<th>Working at Heights</th>
<th>Prevention and control of hazards associated with working at heights include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Prior to undertaking work, test structure for integrity;</td>
</tr>
</tbody>
</table>

The PIF includes commitment for compliance to Occupational Health and Safety Regulations which includes prevention and control of hazards associated with working at heights.

**NO GAP**

The project owner has not finalized operation and maintenance agreement with turbine provider yet and thus all
| 2) | Implementation of a fall protection program that includes training in climbing techniques and use of fall protection measures; inspection, maintenance, and replacement of fall protection equipment; and rescue of fall-arrested workers; |
| 3) | Establishment of criteria for use of 100 percent fall protection (typically when working over 2 m above the working surface but sometimes extended to 7 m, depending on the activity). The fall-protection system should be appropriate for the tower structure and movements to be undertaken including ascent, descent, and moving from point to point; |
| 4) | Install fixtures on tower components to facilitate the use of fall protection systems; |
| 5) | Provide workers with an adequate work-positioning device system. Connectors on positioning systems must be compatible with the tower components to which they are attached; |
| 6) | Ensure that hoisting equipment is properly rated and maintained and that hoist operators are properly trained; |
| 7) | Safety belts should be of not less than 15.8 mm (5/8 inch) two in one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibres become evident; |
| 8) | When operating power tools at height, workers should use a second (backup) safety strap; |
| 9) | Signs and other obstructions should be removed from poles or structures prior to undertaking work; |
| 10) | An approved tool bag should be used for raising hazards associated with working at heights and high voltage. |

In addition to that PIF includes commitment to Occupational Health and Safety Regulations which includes prevention and control of hazards associated with working at heights and high voltage. Therefore, no gap identified for this indicator.
<table>
<thead>
<tr>
<th>Community Health and Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aircraft and Marine Navigation Safety</strong></td>
</tr>
<tr>
<td>1) Consult with air and marine regulatory traffic authorities before installation, in accordance with air and marine traffic safety regulations;</td>
</tr>
<tr>
<td>2) When feasible, avoid siting wind farms close to airports or ports and within known flight path envelopes or shipping lanes;</td>
</tr>
<tr>
<td>3) Use anti-collision lighting and marking systems on towers and blades.</td>
</tr>
<tr>
<td>¹ PIF, page 66</td>
</tr>
<tr>
<td><strong>Blade / Ice Throw</strong></td>
</tr>
<tr>
<td>1) Establish safety setbacks, and design / site wind farms such that no buildings or populated areas lie within the possible trajectory range of the blade. This safety setback range is unlikely to exceed 300 meters, although the range can vary with the size, shape, weight, and speed of the rotor, and with the height of the turbine;</td>
</tr>
<tr>
<td>2) Equip wind turbines with vibration sensors that can react to any imbalance in the rotor blades</td>
</tr>
</tbody>
</table>

| ¹ PIF, page 66 |
and shut down the turbine if necessary;
3) Regularly maintain the wind turbine;
4) Use warning signs to alert the public of risk.

Ice throw management strategies include:
1) Curtail wind turbine operations during periods of ice accretion;
2) Post signs at least 150 meters from the wind turbine in all directions;
3) Equip turbines with heaters and ice sensors;
4) Use cold-resistant steel for the turbine tower;
5) Use synthetic lubricants rated for cold temperature;
6) Use black fluoroethane-coated blades;
7) Provide full-surface blade heating, if available, or otherwise use leading-edge heaters at least 0.3 m wide.

<table>
<thead>
<tr>
<th>Electromagnetic Interference</th>
<th>Aviation Radar</th>
<th>Aviation Radar and Telecommunication Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevention and control measures to address these impacts include the following:</td>
<td>Aviation Radar and Telecommunication Systems</td>
<td>NO GAP</td>
</tr>
<tr>
<td>1) Consider wind energy equipment component designs that minimize radar interference, including the shape of the turbine tower, the shape and materials of the nacelle, and use of radar-absorbent surface treatments (e.g. rotor blades made of glass-reinforced epoxy or polyester) which should not create electrical</td>
<td>According to rules in Turkey, power plant operators need to get approval of The Scientific and Technological Research Council of Turkey (TUBITAK) on technical interaction of wind power plants on communication, aviation and radar systems.¹</td>
<td>While Yalova has already positive opinion from telecommunication and has to have permission from The Scientific and Technological Research Council of Turkey for radar system, it is expected that there is no gap.</td>
</tr>
</tbody>
</table>

disturbance;
2) Consider wind farm design options, including geometric layout and location of turbines and changes to air traffic routes;
3) Consider radar design alterations including relocation of the affected radar, radar blanking of the affected area, or use of alternative radar systems to cover the affected area.

**Telecommunication Systems**

1) Prevention and control measures to address impacts to telecommunications systems include the following:
2) Modify placement of wind turbines to avoid direct physical interference of point-to-point communication systems;
3) Install a directional antenna;
4) Modify the existing aerial;
5) Install an amplifier to boost the signal.

**Television**

1) Prevention and control measures to address impacts to television broadcast include the following:
2) Site the turbine away from the line-of-sight of the broadcaster transmitter;
3) Use non-metallic turbine blades;
4) If interference is detected during operation:
   a. Install higher quality or directional antenna;
   b. Install higher quality or directional antenna;

In addition to that, the project owner has received positive opinion letter for turbine siting from Türk Telekomünikasyon A.Ş., stating that the electromagnetic waves stemming from turbines will not affect the telecommunication systems existing in the project region¹.

In addition to that, the project owner has received positive opinion letter for turbine siting from Türk Telekomünikasyon A.Ş., stating that the electromagnetic waves stemming from turbines will not affect the telecommunication systems existing in the project region¹.

**Television**
While TV broadcasting has been done mainly by satellite systems. NA.

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¹ See Appendix 5.
b. Direct the antenna toward an alternative broadcast transmitter;
c. Install an amplifier;
d. Relocate the antenna;
e. If a wide area is affected, consider the construction of a new repeater station.

<table>
<thead>
<tr>
<th>Public Access</th>
<th>Prevention and control measures to manage public access issues include:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Use gates on access roads;</td>
</tr>
<tr>
<td></td>
<td>2) Fence the wind farm site, or individual turbines, to prohibit public access close to the turbine;</td>
</tr>
<tr>
<td></td>
<td>3) Prevent access to turbine tower ladders;</td>
</tr>
<tr>
<td></td>
<td>4) Post information boards about public safety hazards and emergency contact information.</td>
</tr>
</tbody>
</table>

PIF includes measure of fencing the turbines and switchyard with fence.1

Other measures will be implemented by equipment provider with whom the project owner will make a turnkey agreement

**NO GAP**

PIF includes fencing the wind turbines and switchyard.

Other measures will be incorporated to the turnkey agreement with equipment provider who will be responsible from construction, operation and maintenance of the power plant.

---

1 PIF, page 71
6 Recommendations

The analysis of the gap between requirements of World Bank and the reports and studies done by Yalova shows that the project is in compliance with the requirements.

7 Conclusion

The gap analysis report at hand provided a comparison between requirements of World Bank as listed in safeguarding policies and environmental, health, and safety guidelines for wind energy and the studies and reports prepared by Yalova for implementation of the project as well as some regulations that Yalova has to comply with. The list of documents reviewed for gap analyses are provided under table 1.

The methodology of the analysis has been listing of requirements and reviewing of studies and reports prepared by Yalova by an aim to state gap and compliances. Reviewed documents listed under section 2. While the project description regarding location and technical specification has been provided through section 3, the section 4 presented short summaries of three ecosystem assessment reports for further clarification for the readers. As the gap analysis matrix which is composed of two separate tables presented in section 5, recommendations are stated in section 6.

The result of gap analysis has been compliance of the project design with the requirements of the World Bank.
Appendix 1:
| Hàm Kullıamın Bölgesi veya Stratejik Belgeler Kullanım Belgeleri | İşlev Belirli Toğrulki | Abdesta. örnekler türlerin kullanılmasını kolaylaştırmak, uygun katalizlerde elde edilen sonuçlarla, özel olarak bilimsel ve yazarlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik sonuçlar için bilimsel ve pratik uçları.
<table>
<thead>
<tr>
<th>APTACAE</th>
<th>Herniaria phryganum</th>
<th>Endemik</th>
<th>LR (LC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMPANULACEAE</td>
<td>Campanula herba, subsp. herba</td>
<td>Endemik</td>
<td>LR (LC)</td>
</tr>
<tr>
<td>FABACEAE</td>
<td>Lotus suaveolens Fries.</td>
<td>Endemik</td>
<td>VU</td>
</tr>
<tr>
<td>FABACEAE</td>
<td>Trifolium pratense L. subsp. pratense</td>
<td>Endemik</td>
<td>LR (LC)</td>
</tr>
<tr>
<td>LAMIACEAE</td>
<td>Lavandula stoechas L.</td>
<td>Endemik</td>
<td>LR (NT)</td>
</tr>
<tr>
<td>LAMIACEAE</td>
<td>Teucrium chamaedrys L. subsp. tauricum</td>
<td>Endemik</td>
<td>LR (LC)</td>
</tr>
<tr>
<td>LAMIACEAE</td>
<td>Phlomis nutans (Sims) Boissier</td>
<td>Endemik</td>
<td>LR (LC)</td>
</tr>
<tr>
<td>POACEAE</td>
<td>Elymus fruticosus (Viv.) Roshevsk. subsp. rechingeri</td>
<td>Endemik</td>
<td>VU</td>
</tr>
</tbody>
</table>

ASLINDA İMZA VARDIR

<table>
<thead>
<tr>
<th>PRIMULACEAE</th>
<th>Cyclamen coum Miller var. coum</th>
<th>BEIRN</th>
<th>10 NIS 2012</th>
</tr>
</thead>
</table>

ASLINDA İMZA VARDIR
Appendix 3:

T.C.
ORMAN VE SU İŞLERİ BAKANLIĞI
Doğa Koruma ve Milli Parklar Genel Müdürlüğü

Sayı : B.23.0.DMP.0.13.02-430.03-13947
Kонu: YHGS içerisinde RES izni

Yalova Rüzgar Enerjisinden Elektrik Üretim Santrali Ltd. Şti.
(Birlik Mah. 448. Cad. No:40 Da:5 Çankaya)
Ankara

İlgi : 19.12.2011 tarihli ve B.23.0.DHD.0.05-000-35874 sayılı yazı


İnceleme neticesinde, Karacabey RES projeniz inşaat ve işletme süresi boyunca, firmanızın yapmakla sorumlu olan hükmürcenin belirtildiği ekte yer alan taahhüt senedinin noter onaylı 2 (iki) suretinin Genel Müdürlüğüne sunulması, ayrıca taahhüt senedinde yer alan hükümlerin Karacabey RES Projesi Nhişai ÇED Raporu hükümlerinde yer almışa koşuluyla uygun görülmüştür.

Gereğini rica ederim.

Alpınar ÖZAYANIK
Bakan a.
Genel Mürüdör

EKLER :
Ek.1- Taahhüt Senedi (2 nicelik)

Appendix 4:

T.C. KÜLTÜR VE TURİZM BAKANLIĞI
Bursa Kültür ve Tabiat Varlıklarını Koruma Bölge Kurulu Müdürlüğü

B U R S A

Sayı : B.16.0.KVM.4.16.00.02/720 / 314/11
Konu : Bursa ili, Karacabey İlçesi, Kiranlar Köyü,
Karacabey Rüzgar Enerjisi Santrali

KAYARES
Yalova Rüzgar Enerjisinden Elektrik Üretimi Santrali Limited Şirketi
7. cd. Cemka II Apt. No: 40/5 Birlik Mah. Çankaya/ANKARA


Bursa ili, Karacabey İlçesi, Kiranlar Köyü Mevkiinde, H20-B4 parçalarda, 1/25000’lik ekli
haritada 752 ha toplam alanını 12,8 ha’lık kısmında kurulması planlanan 27,9 MW gücündeki
Karacabey RÜZGAR Enerjisi Santrali projesine ilişkin ilgili yazılıda belirtilen alan Müdürlüğü
uzmanlarına yerinde incelemdir.

Konuya ilişkin olarak hazırlanılan raporda; 1/25000’lik ekli haritada belirtilen alanında
yapılan yüzey incelmesinde 5226-3386 sayılı yasalarla değişik 2863 sayılı yasa kapsamında
herhangi bir Kültür ve Tabiat varlığına rastlanmadığı belirtilmek, başvurdu eki 1/25000’lik ekli
haritada 752 ha toplam alanını 12,8 ha’lık kısmında 27,9 MW gücündeki Karacabey RÜZGAR
Enerjisi Santrali kurulmasında mevzuatımız çerçevesinde sakınca bulunmadığı ifade edilmektedir.

Bilgilerinize rica ederim.

[İmza]

Dağıtım
-Kültür Varlıklarını ve Müzeler Genel Müdürlüğü’ne/ANKARA
(Ek: Rapor ve eki)
-Kayares Yalova Rüzgar Enerjisinden Elektrik Üretimi Santrali
Limited Şirketi
7. cd. Cemka II Apt. No: 40/5 Birlik Mah. Çankaya/ANKARA

Adres:Osmangazi Cad. Orhangazi Çıkmazi No.22 Tophane 16050 Osmanagazi/ BURSA
Tel-Fax : (224) 220 14 37-223 16 06 e-posta:bursakonul@itnet.net.tr
Appendix 5:

**PPM KİRLİLİK ÖNLEME VE YÖNETİMİ DAN. MÜH. İNŞ. SAN. VE TIC. LTD. ŞTİ.**
(Mustafa Kemal Mah. Dumlupınar Bulvan No:226, Tepe Prime İş Merkezi B-85)
Çankaya -ANKARA

**ILGI:** 01.08.2012 tarih ve PPM.2012.154.07 sayılı yazımız.

Bursa-Karacabey Kiranlar Köyü Pelitözü, Çalbayır, Çataltepe mevkiinde kurulması planlanan “Karacabey RES” projesinin ÇED Gerekli değildir kararıyla yönelik olarak revize edilen Proje Tanıtım Dosyası incelenmiştir.

Ekteki (EK-3) belirtilen yazına uygun şekilde optik görüş çizgilerinin duşundaki alanlara yerleştirilmiş olan Karacabey RES projesine ait 1/25.000 vizyet planı ve ekindeki koordinat listesinin onaylanması Bölge Müdürlüğümüzce uygun bulunmuştur.

Bilgilerinize arz ederiz.

[Hüseyin ÖZEN
Batı-II Bölge Müdürü.Yrd.]

[Hasbi ŞAHİN
Batı-II Bölge Müdürü Y.]

15.08.2012