

EBRD and Wind Energy in Turkey and Beyond

**Climate Investment Funds
“Managing the Impact of Wind Energy Development
on Birds and Bats”**

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Agenda

- EBRD and Wind Projects in Turkey
- Wind Projects and Environment
- Turkish EIA process
- EBRD approach to due diligence
- Biodiversity assessments
- Typical issues in Turkey



EBRD and wind

- Projects have been proposed or approved for finance in nine of EBRD's 29 Countries of Operation: Bulgaria, Estonia, Croatia, Hungary, Jordan, Mongolia, *Poland, Romania*, Turkey, Ukraine (*yellow* = most active)
- Debt and equity financing of projects from 10MW to over 240MW
- Due diligence on >>1500MW, financing >1000MW, >700MW in pipeline
- Portfolio is expanding rapidly
- Extensive experience in due diligence, limited but growing experience to date with operations



EBRD Wind Projects in Turkey

- > 10 assessed and reviewed to date
- Two large projects financed in past 2 years:
 - 142.5 MWe Enerjisa Bares, Balikesir in western Turkey
 - 120 MWe Rotor wind farm in Osmaniye developed by Zorlu Enerji
- Several currently in E&S due diligence



Key environmental issues

- Construction: vegetation removal, potential erosion, noise, traffic, wildlife displacement, etc.
- Operations:
 - Visual disturbance
 - Bird mortality: turbines AND transmission lines
 - Bat mortality: turbines
 - Erosion (roads and tower pads)
 - Habitat disruption: transmission lines and roads
- Others: land acquisition (resettlement, damages), aviation/radar interference, lighting, etc.



Benefits of wind farms

- Clean renewable energy
- Subsidies make this a very attractive financial investment (issue of cost)



Issues raised by concerned NGOs

- Most important and knowledgeable NGO: Birdlife International (and RSPB)
- Birds and Bats: migratory, seasonal or year-round residents
- Cumulative impacts of special concern (wind = birds)
- Public consultation



Why is Turkey important?

- Bird migratory routes
 - Major N-S routes
- Wintering, sensitive habitats
- Rich local bird and bat fauna



60°N

40°N

20°N

20°S

40°S

20°W

0°

20°E

40°E

60°E

80°E

**Bird migration routes
relevant to EBRD**



Turkish EIA

- Environmental Impact Assessment (EIA) Report or Project Description Report (PDR) based on the classification of the projects listed in Annex I and Annex II of the EIA regulation.
- EIA Regulation amended in June 2011,
 - 75MWe or more capacity are included in Annex I and must have an EIA Report:
 - Wind projects 10-75MWe included in Annex II and subject to prepare a PDR.
 - Smaller wind projects do not need an EIA or PDR
- According to the EIA Regulation, transmission lines having a capacity of 154 kV or higher and a length of 5 km or higher are included in Annex II of the Regulation.



Turkish EIA requirements for renewable energy projects

The following table shows the latest requirements of the EIA Regulation:

Power Project	EIA Report (Annex I Projects)	PDR (Annex II Projects)
Thermal	300 MWt and above	20 MWt – 300 MWt
Hydro	Reservoir Capacity 10 million m ³ and above	Reservoir Capacity 5-10 million m ³
Run-off-River	25 MWm and above	0 MWm - 25 MWm
Wind	75 MWe and above	10 MWe – 75 MWe
Solar	75 MWe and above	10 MWe – 75 MWe
Geothermal	25 MWe and above	5 MWe – 25 MWe

Please note that PDR is Project Description Report.



EBRD Performance Requirements

(2008 Environmental and Social Policy)

- Clients are subject to 10 Performance requirements
- Most important for wind projects:
 - PR1: Environmental and Social Appraisal and Management
 - PR6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
 - PR10: Information Disclosure and Stakeholder Engagement



Environmental and social appraisal (PR1)

- All EBRD projects are subject to appraisal of potential environmental and social impacts
- A-Category projects undergo “special formalised and participatory assessment processes”, generally a “comprehensive environmental and/or social impact assessment.”
 - Greenfield and major expansions that can cause significant adverse effects are Category A.
- B-Category projects also undergo due diligence process to identify and assess potential future impacts.



PR1: Appraisal (2)

- Is it Category A or B?
 - Some EU countries use number of turbines and/or megawattage as thresholds
 - Formerly rule of thumb was “A” for > 50MW. now threshold is roughly 100MW (and under discussion)
 - Transmission lines could trigger A category
- EBRD has few hard and fast rules
 - We can usually tell an “A” when we see it, or a “B”. Not always. Automatic A if direct effect on Natura 2000 or protected area
 - Otherwise, decision generally based on consideration of size, location, and associated facilities.



Performance Requirement 6

- Committed to Biodiversity Mitigation Hierarchy that encompasses the precautionary principle
- Guided by applicable international law and conventions and relevant EU Directives (*even in non-EU countries such as Turkey*)
 - Key EU Directives: EIA Directive, SEA Directive, Habitats Directive, and Birds Directive
 - EU Guidance: Wind energy developments and Natura 2000
 - Screening assessment (potential significant effects?) See next slide, too
 - Appropriate assessment or equivalent
 - Compensation if needed



PR6: EBRD due diligence (1)

- Require independent assessment of risks to birds and bats, regardless of proximity to Natura 2000 or other known protected/sensitive areas
- Require independent assessment of available data, including previous monitoring and possible cumulative impacts
- Always consult with nature protection authorities. When possible, consult with local affiliates of Birdlife International
- Along Via Pontica, EBRD provided funding for:
 - Strategic Environmental Review of wind development in Bulgaria in 2010
 - SER for coastal counties of Romania approved, to commence 2012



PR6: EBRD due diligence (2)

- Pending completion of strategic assessment in Romania, all large projects along Via Pontica are Category A
- Sponsored strategic assessment for renewables, including wind, in Ukraine
- Beginning similar SEA in Kazakhstan
- May consider SEA for other countries, including SEMED



PR6: EBRD challenges

- EU guidance calls for four seasons of monitoring data.
 - Two issues:
 - Are data for 4 seasons sufficient to assess impacts and significance?
 - Are all data needed before approval?
 - Further monitoring and independent evaluation of results are ALWAYS required, including several years of operation (mirrors Poland guidance calling for 3 years post construction)
- Some countries of operation are EU members. Even so, authorities may be less than rigorous in applying EU Directives



PR6: EBRD challenges (2)

- Most countries of operation are not in EU:
 - What areas are equivalent to Natura 2000 areas?
 - What species are equivalent to those listed in Annex I?
 - Who is the competent authority?
- Ensuring coverage of all project and cumulative impacts:
 - Phased construction
 - “Salami-slicing”
 - Multiple regional developments
 - Associated facilities (transmission lines, substations, control center, roads), some of which may be developed by others



PR6: Future challenges and opportunities

- Consolidated monitoring data at regional, national, international level
 - Formats
 - Quality assurance
 - Who would sponsor and champion, and then maintain system?
- Regional approaches
 - Multi-country SEAs along migration routes?
 - Multi-sponsor radar systems within countries?



PR 10: Stakeholder engagement

- Aarhus Convention
- Stakeholder Engagement Plan required for pre-construction, construction, operation
- For biodiversity, key stakeholders include
 - National authorities - EIA, nature protection, land management
 - Regional authorities – regional outposts of national ministries
 - Local authorities (municipality, town, village)
 - Academics with relevant expertise
 - Civil society (notably, local affiliates of Birdlife International and bat protection societies)
 - Potentially affected people and other interested parties



Key issues

- Lack of strategic assessment and therefore definition of no-go areas, “be careful areas”, “ok areas”
- Lack of cumulative assessment for multiple projects in same area (or along same flyway)
- Very poor knowledge of bat residence and migration
- No guidance on pre construction EIA baseline data – i.e. 1 years bird and bat monitoring?
 - Again experts make a decision on the length of monitoring and this varies, as developers want to limit the time as much as possible



Key issues (2)

- Bat monitoring: This is not usually done in Turkey.
 - Not many qualified chiropter (the ministry requires Doctorate degree in zoology) in Turkey or elsewhere
- Lack of experienced ornithologists.
 - There are only few ornithologists (the ministry requires Doctorate degree in ornithology) in Turkey who can conduct such assessment. This becomes a bottleneck in some projects.
- Assessment and survey methodology is not well defined.
 - Method is mostly determined by the experts but our experience so far is that the quality is quite low in bird assessments done locally in Turkey. The assessment reports are usually qualitative assessments, mostly short, without much quantitative assessment.



Next steps

- Industry/NGO/Government guidance on EIA and baseline data
- Strategic Environmental Assessment to:
 - Define bottlenecks, sensitive areas, no-go areas for developers
 - Assist authorities make consistent and predictable decisions
- Good stakeholder engagement

