ENVIRONMENTAL IMPACT FOR WIND FARM DEVELOPMENT AT GULF OF SUEZ

Workshop on Life Cycle Assessment and GIS Tools for Energy planning (TW3-TW4)

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THE PLANNING APPROACH FOR A WIND FARM DEVELOPMENT

A planning document with dedicated areas marked for wind energy development.

Individual Projects
PLANNING OF WIND FARMS LOCATED AT THE GULF OF EL-ZAYT

The wind atlas is based on more than 10 years of measurements (as of 2003)
PLANNING OF WIND FARMS LOCATED AT THE GULF OF EL-ZAYT
Ain Shams University

The bird migration atlas is the result of an in-depth field survey during three bird migration seasons.

An estimated: 2-3 million birds of prey, 500,000 storks, 50,000 cranes, and 25,000 pelicans pass the study area twice a year – mostly along well defined migration routes.
Egyptian Guidelines for EIA of Wind Farms:
Law no. 4 of 1994, which came into full force from 1995 to 1998. The law is implemented through the Egyptian Environmental Affairs Agency (EEAA) and the Environmental Management Unit in the 26 Governorates (administrative units) of Egypt.

During the initial screening projects:
1. White list projects (minor or no environmental impact)
2. Grey list projects (may result in significant environmental impact)
3. Black list projects (a significant environmental impact due to the size of the project or the nature of the impact)
WIND FARM DEVELOPMENT AT GULF OF ZAYT

- **Beneficiary:** New and Renewable Energy Authority (NREA)
- **Financed by:** KfW-Entwicklungsbank

- **Facts:** There are not any significant environmental impacts expected resulting from the wind park *construction* or *operation* phases. They can easily be avoided by good housekeeping and strict supervision of construction measures. The main impact will be on bird migration, although expected collision rates might be low.
WIND FARM DEVELOPMENT AT GULF OF ZAYT

Achieved:

1. the “NREA concessionary area” was zoned according to the weight of the expected environmental impact.

A. Zone 1: Wind Park construction is banned.

B. Zone 2: Construction subject to further ornithological monitoring and verification.

C. Zone 3: Construction critical.
WIND FARM DEVELOPMENT AT GULF OF ZAYT

Ain Shams University

Feasibility Study Gulf of El Zeyt
Ornithological Summary

Zoning according to environmental protection aspects:
- Zone 1: Construction banned
- Zone 2: Construction subject to further ornithological monitoring & verification
- Zone 3: Construction critical

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WIND FARM DEVELOPMENT AT GULF OF ZAYT

Achieved:

2. Limiting the max tip height of wind turbines to 100 m in order to limit the barrier effect.

3. A protocol for shut-down-on-demand. It uses radar to monitor migrating birds and inform decisions on shutting down turbines.

4. Equipping the wind turbines/blades with all means commercially available that makes them more visible for soaring and gliding bird species flying during daylight.
THANK YOU

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