Bird-friendly Renewables : Bridging Climate Change & Biodiversity

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Imbalanced Representations

- The relationship between climate change & energy
- "Green Culture" & Climate Change – solutions revolve around energy & emissions
- E.g. Electric cars; "Green Buildings" ; "Clean" energy ; food & distance

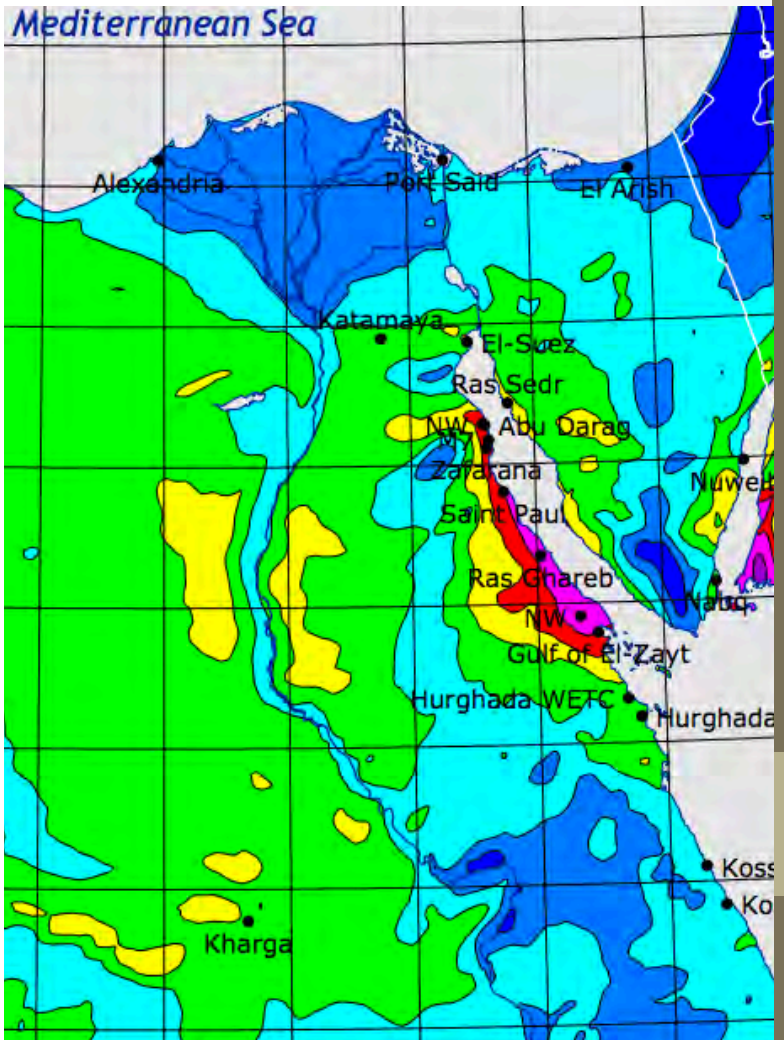
Imbalanced Representations

"Choose Renewable Power"

- Public & private commitment to renewables
- Political/economic targets & goals
- Egypt: on a path to sustainability?

Bridging Renewables with Biodiversity in Egypt

- Increased political & economic investment in renewables;
- High potential for wind & solar energy;
- Centralised administrative body to manage renewable energy projects (NREA)



Threats Arising to Soaring Birds From the Energy Sector

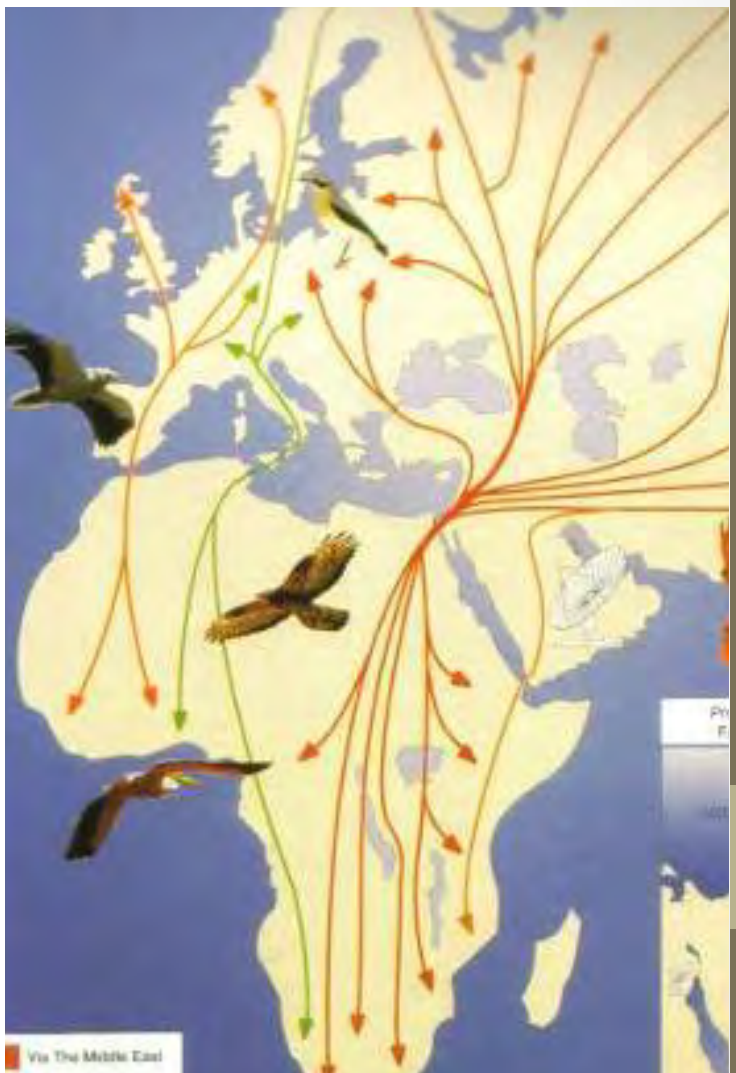
- EIAs did not have systematic approach to impact on biodiversity;
- Turbines increase risk of collision with soaring birds during migration;
- Power lines increase electrocution & collision risks
- Habitat destruction & degradation

Threats Arising to Soaring Birds From the Energy Sector

Egypt – Heart of a Flyway

- Red Sea / Rift Valley Flyway hosts two million soaring birds annually

- Raptors & Storks constitute largest segment of soaring birds

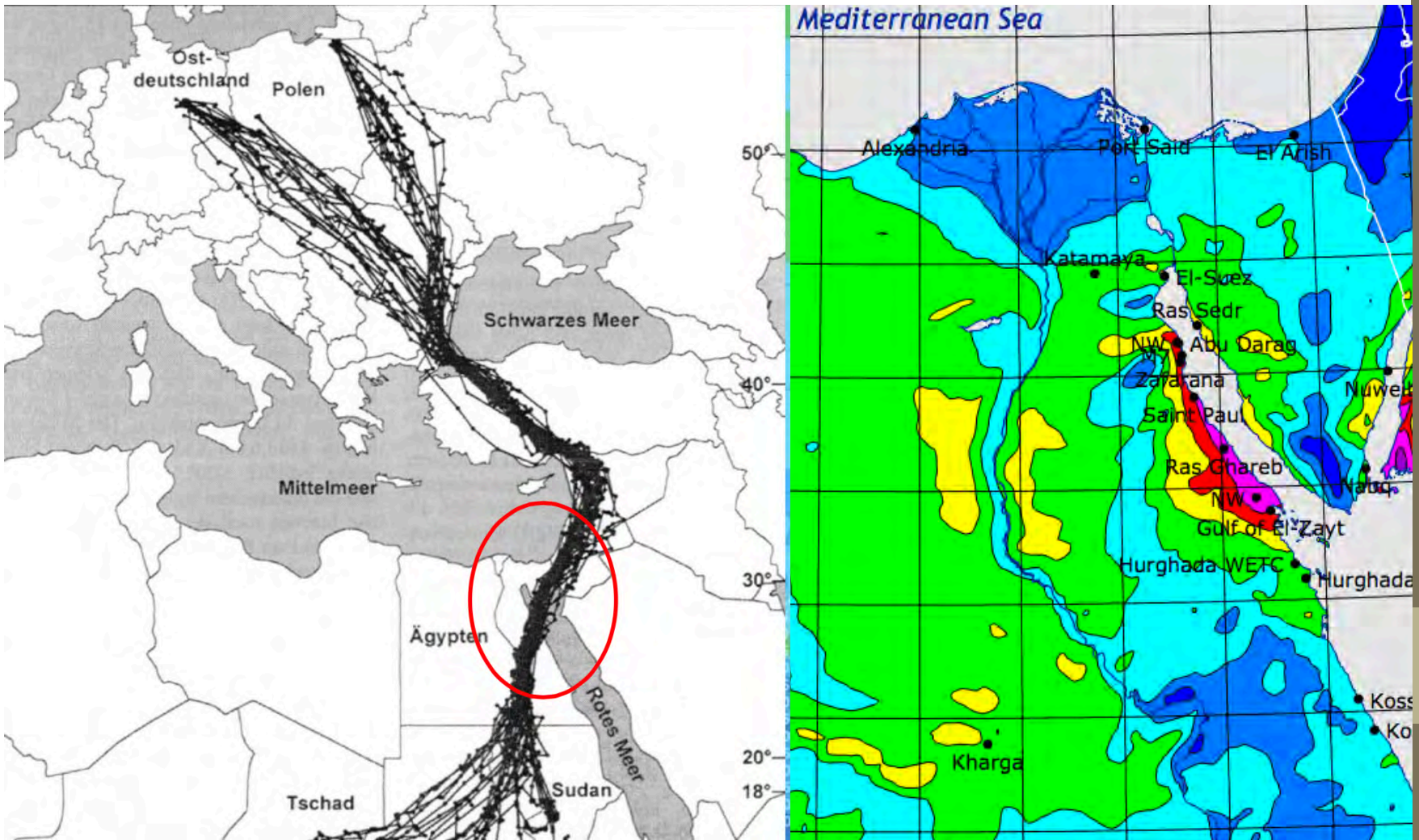


Egypt – Heart of a Flyway

Historical Significance of Soaring Birds

- Ancient Egyptians were the first birdwatchers
- Falcons sacred
- Horus = Lanner

Bridging Renewables with Biodiversity in Egypt



Bridging Renewables with Biodiversity: MSB Project

- Integrating bird-conservation into policies of key productive sectors along the entire flyway;
- Agriculture, Energy, Hunting, Tourism & Waste Management;
- EEAA / NCE + Birdlife Int. (Gov & NGO Collaboration)

MSB Project : Key Goals

Reducing threat of collision, electrocution, and habitat degradation through:

- Increased awareness & commitment of the energy sector to conserving migratory soaring birds (MSBs)
- Develop & promote EIA Guidelines & Monitoring Protocols to ensure bird-friendly site planning & design;
- Cooperation between NREA & EEAA to ensure bird-friendly energy

MSB Project : Mainstreaming

*Increased awareness & **commitment** of the energy sector to conserving migratory soaring birds (MSBs) : 2012 MOU*

مذكرة تفاهم

بين

جهاز شئون البيئة المصري

و

هيئة الطاقة الجديدة والمتجددة

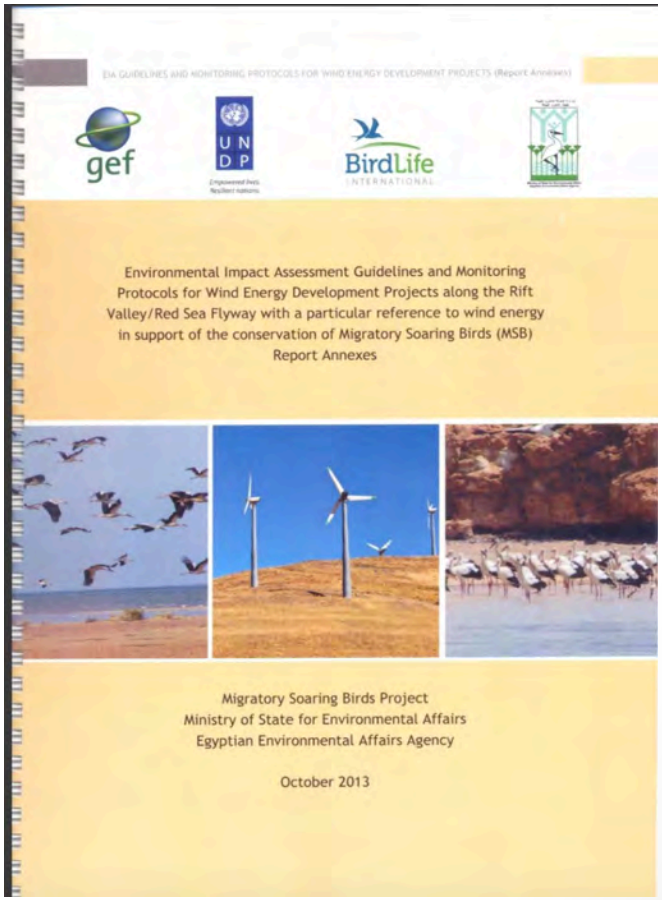
MSB Project : Technical Assistance

Develop & promote EIA Guidelines & Monitoring Protocols to ensure bird-friendly site planning & infrastructure design;

- EIA Guidelines & Monitoring Protocols: developed, standardised and adopted;
- "Shutdown-On-Demand": criteria developed & adopted to ensure safety of soaring birds;
- Surveys conducted to determine baseline results for migratory birds (building data & capacity)
- Training workshops for NREA & EEAA on guidelines and protocols

MSB Project : Technical Assistance

Develop & promote EIA Guidelines & Monitoring Protocols to ensure bird-friendly site planning & infrastructure design;



Nature-Friendly Renewables Along Egypt's Flyway: Outcomes

- Official & systematic coordination between:
  - Governmental Sectors (EEAA + NREA)
  - Multilateral Developments Banks (MDBs)
  - Private sector developers
  - Environmental consultants & researchers
  - Civil society

- Highlighting Egypt's importance to migratory species, and **their importance** to Egypt – truly sustainable wind energy + economic opportunities for birdwatching tourism

Nature-Friendly Renewables Along Egypt's Flyway: Outcomes

- Pre & post-construction monitoring at migration hotspots + increasing data & capacity for monitoring;
- "Shut-down on demand" implemented for the first time at Gabal El Zeit in 2016;

Nature-Friendly Renewables Along Egypt's Flyway: Outcomes

Targeted awareness programmes: World Migratory Bird Day Celebrations (EEAA + NREA + Civil Society)

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Conclusions

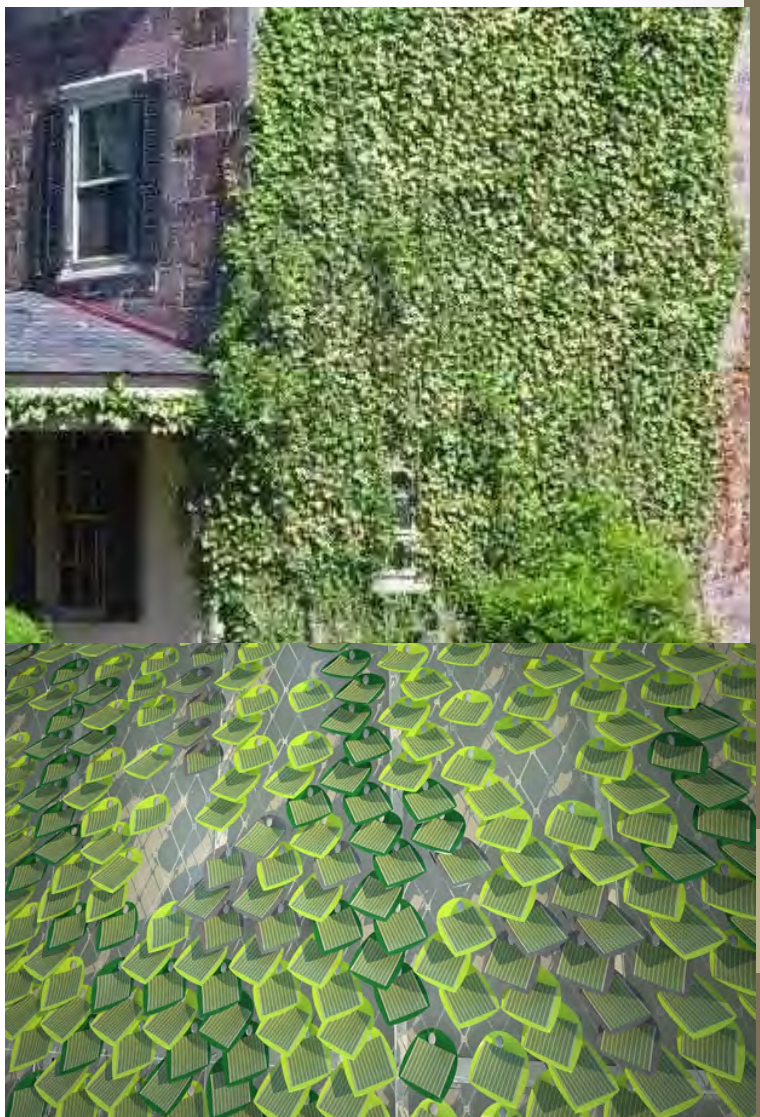
- Renewable energy is only sustainable if biodiversity is taken into consideration;
- Collaboration for nature-friendly mitigation measures are possible, and in this case study, successful;
- More interdisciplinary approaches to climate change mitigation are necessary for true sustainability;

A Closer Look at Biodiversity

- *WhalePower* – Inspired by the tubercles of a Hump-back Whale's fin
- *Tubercle Technology* massively reduces drag & noise, increasing efficiency
- *Wind-energy less geographically restricted*

A Closer Look at Biodiversity

- *Solar Ivy Systems* – Photovoltaic "leaves" generate wind & solar power
- Inspired by Ivy, which competes by growing vertically;
- Better use of space + highly customizable appearance + provides shade

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BirdLife
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Watter Al Bahry
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Nature Conservation Egypt