

Annex 3

Reconnaissance of the KfW Study Area (now renamed to European Area) Feasibility Study for a 200 MW Wind Farm at the Gulf of El Zayt



ARAB REPUBLIC OF EGYPT



MINISTRY OF ELECTRICITY AND ENERGY
NEW AND RENEWABLE ENERGY AUTHORITY (NREA)

FEASIBILITY STUDY FOR A 200 MW WIND FARM At the GULF OF EL ZAYT



financed by

KfW-Entwicklungsbank

Reconnaissance of the KfW Study Area

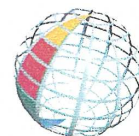
Land use, Orography & Suitability for Wind Power Installations

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CONSULTANCY

Reconnaissance of the KfW Study Area on (Nov. 2007)

Land use, Orography & Suitability for Wind Power Installations

A reconnaissance visit to the “KfW study area” had been carried out on November 23rd and 24th, 2007. Activities were based on Topographical Maps 1:50.000 and Satellite Photo 1:100,000. Localisation of individual sites was carried out by GPS.

The reconnaissance was aiming at:

- Assessment of topographical and orographical conditions to judge the suitability of the area for wind power constructions
- Assessment of activities in the area, which would be in conflict with wind power utilisation. To that extent the reconnaissance considered environmental impacts. Environmental impact assessment with regard to fauna (especially also with regard to ornithology) and flora were subject of a separate assessment.

The area can be roughly classified into three zones as shown in Figure 1 below:

- A flat eastern band of 2 to 3 km width extending from NW to SE and consisting of compacted sand to gravel surface, where wind park erection and infrastructure could be developed easily and at low infrastructure cost. The area is designated as “Zone a”.
- A hilly terrain of about 1 to 2 km adjacent to the west consisting as well of compacted sand to gravel surface, which requires more complex infrastructure measures for wind park development. This area is designated as “Zone b”.
- At the western border, especially in the southern part of the “KfW area”, a mountainous terrain consisting of rocky surface materials, which would require very high investments into civil works infrastructure and therefore, are not suitable for wind power development. This area is designated as “Zone c”.

On Figure 1 also the adjacent areas with GPC oil concessions are shown in brown colour in the east. The northern part of the oil concession extends over the salt depression. As verified during the reconnaissance visit, the south-eastern part of the “KfW area” extends to the salt depression as well. This south eastern part is also blocked by activities of the GPC outside the submitted oil concessions. These are a petrol company road with oil pipelines on both sides and a transmission line (probably 11 kV) on the western side of the road.

During the reconnaissance visit photos were taken at representative sites, for which coordinates were taken by GPS. Moreover, some points indicate tracks (e.g. point nos. 14 – 22, which indicate a pipeline and maintenance road corridor or points 23 to 25, which are GPS control points for checking the location of the GPC road). The reference points are shown in Figure 2. A corresponding picture series is enclosed for information on typical landscapes.

Reconnaissance "KfW area" - Area characteristics

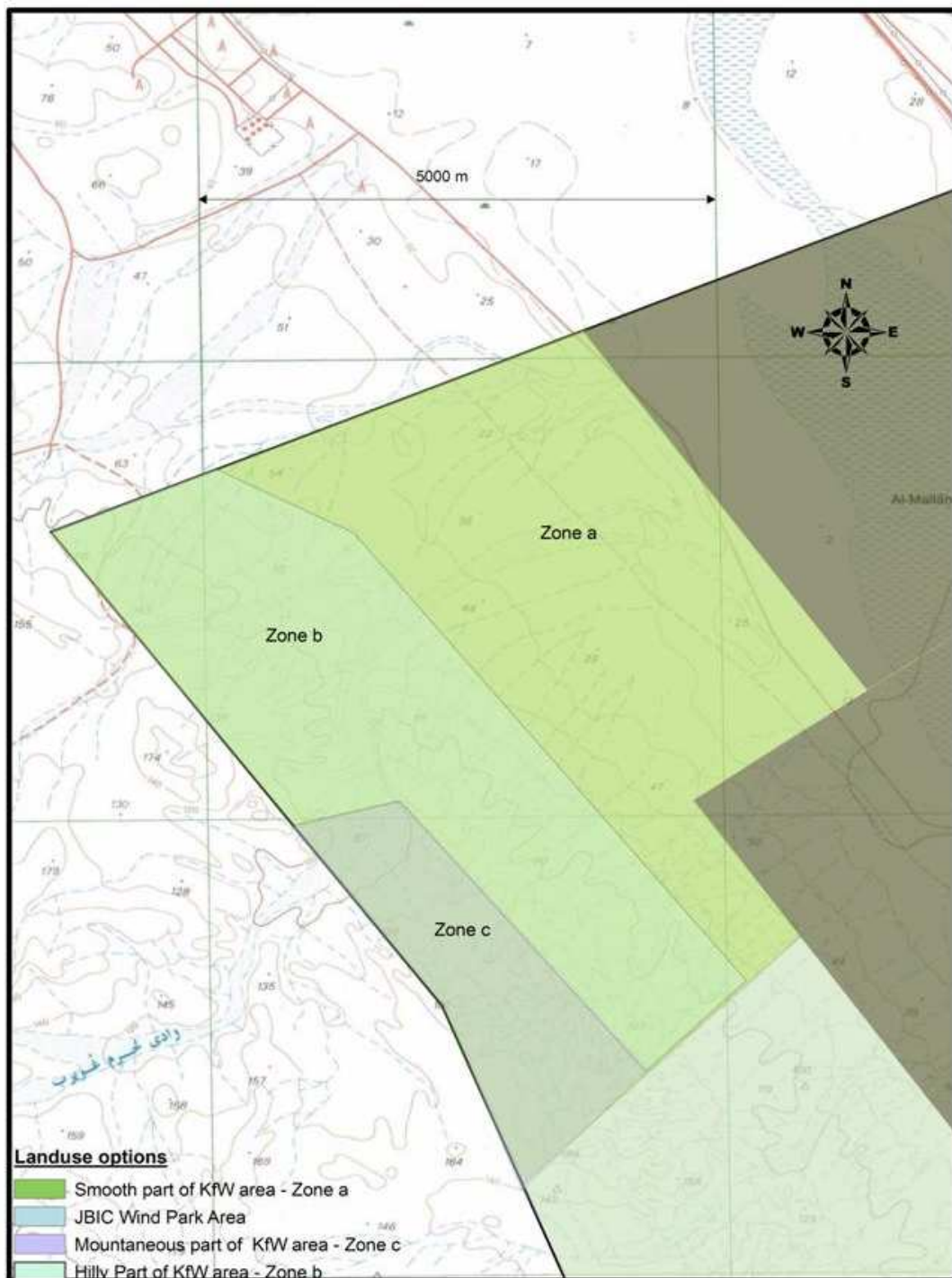


Fig. 1: Rough differentiation of area characteristics

Reconnaissance "KfW area"

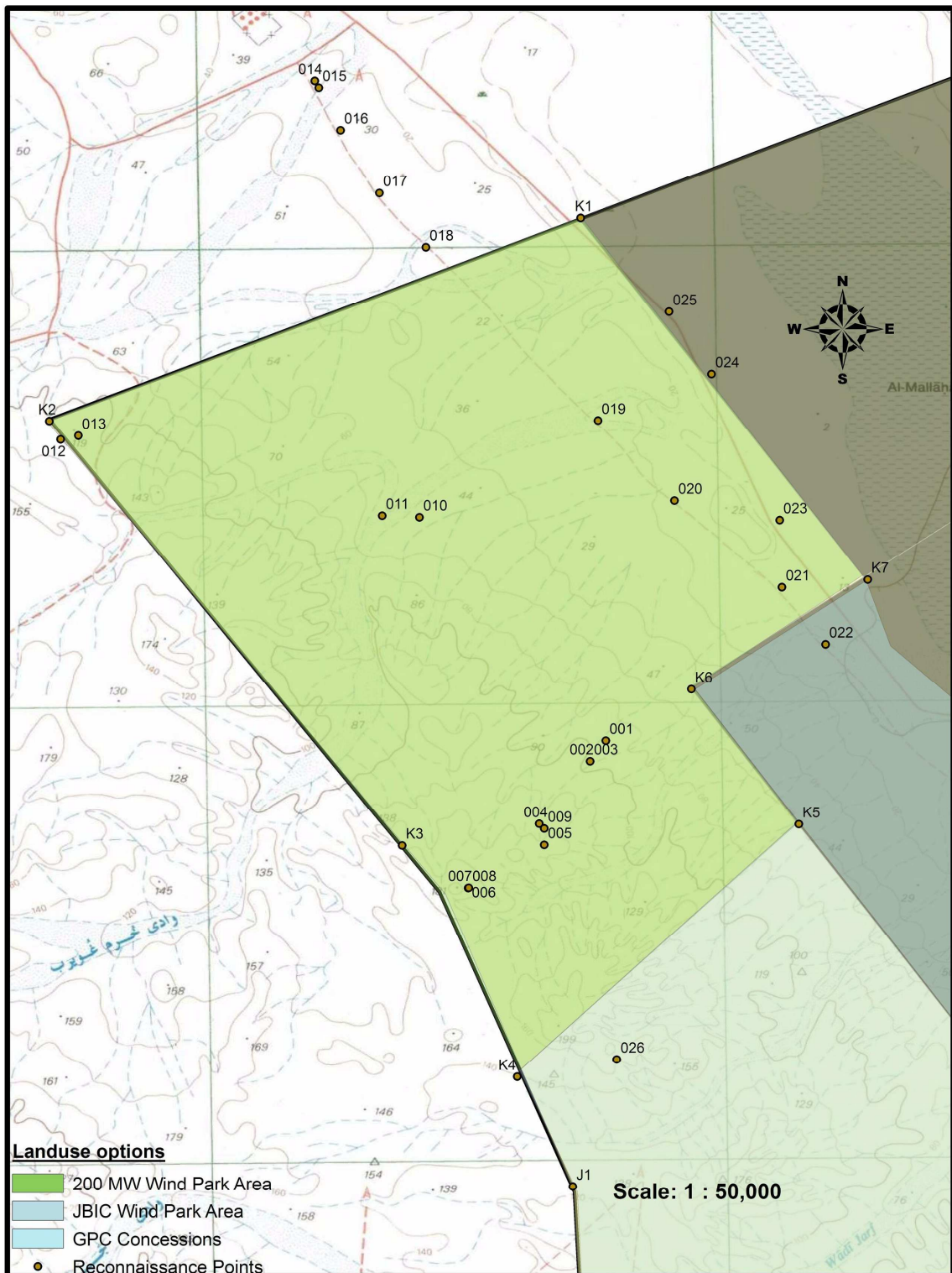


Fig. 2: Reconnaissance points taken by GPS

Zone a – Mostly flat land easy to be developed



Location K5: South-eastern border point of KfW area – View to south -east



Location K5: South-eastern border point of KfW area – View to south



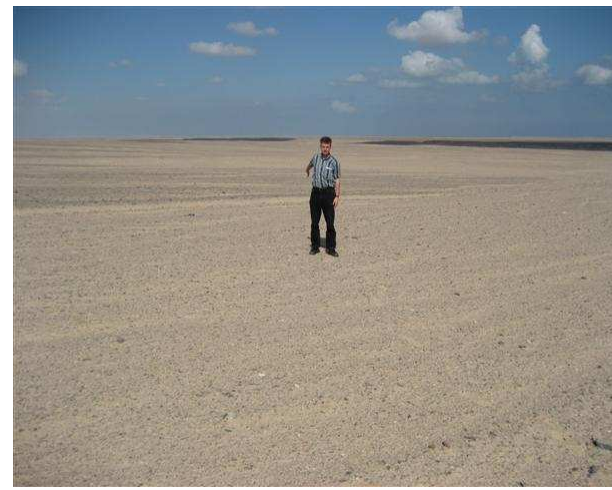
Location K5: South-eastern border point of KfW area – View to south -west



Location K5: South-eastern border point of KfW area – View to west



Location K5: South-eastern border point of KfW area – View to north-west



Location K5: South-eastern border point of KfW area – View to north



Location 023: View towards south east – GPC installations outside the concessionary area blocking part of the “KfW area”



Location K7: Inside salt depression - View towards north-west along the GPC concession border

Location K7: Inside salt depression - View towards south-east along the GPC concession border



Location K1: North-eastern border point of KfW area – View to west along the northern border



Location 10: Southern bank of the Wadi Khurm Ghurwayrib

Zone b – Hilly area requiring more complex infrastructure measures Zone a – Mostly flat land easy to be developed



Location 001: At start of hilly area - View to north-west



Location 001: At start of hilly area - View to west



Location 001: At start of hilly area - View to south-west



Location 001: At start of hilly area - View to south

Location K2: At the north-western corner of the "KfW area" - View to south east along the border



Zone c – Mountainous area less suitable for wind power development because requiring high infrastructure investment cost



Location 006: View to the North



Location 006: View to the East



Location 006: View to the South



Location 006: View to the West



Location 006: View along the border of the “KfW area” to the south-east



Location 006: View along the border of the “KfW area” to the north-west

Location 026: view to north-west towards
the western border of the KfW area



