

A. Definition of the Project

A.1 Title	Studies of Wind Energy Integration into Electricity National Grid in Morocco
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A.2 Type of project	
Wind	X

A.3 Stakeholders	<i>Partners involved in the project activities:</i> Italian Ministry for the Environment and Territory Centre de Développement des Energies Renouvelables IVPC (Italian Vento Power Corporation) EMD (Denmark) ONE (Office Nationale d'Electricité)
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A.3 Location of the project	
City / Town / Village	No specific location: several sites have been assessed, with regard to their potentialities of wind energy integration, namely: Tangier, Ksar Sghir, Taza, Safi, Tan-Tan and Tarfaya.
Brief description of the location	Different sites, commonly characterized by average annual wind speeds between 7 and 11 m/s at 10 m:

A.4 Forecasted Planning for the project			
Status of the project	Phases	Status	Forecasted timing
	Idea / concept	<input type="checkbox"/>	End of the Project: December 2005
	Pre feasibility study		
	On going	X	
	Done	<input type="checkbox"/>	

B. Stakeholders

B.1 Main promoters	
Name	<i>Italian Ministry for the Environment and Territory</i>
Type of organisation	Governmental
Address	Via C.Colombo, 44 00147 Roma - Italy
Contact person	Mr F.Presicce
Telephone/ fax	Tel: +39 06 57228162 Fax: +39 06 57228178
e-mail	presicce.francesco@minambiente.it
Name	<i>Centre de Développement des Energies Renouvelables (Morocco)</i>
Type of organisation	Governmental
Address	rue Mechaar Al Haram, Issil, Marrakech, Morocco
Contact person	Mr J.Cherkaoui, Mr.M.Enzili
Telephone/ fax	Tel: 0021244309814 Fax: 0021244309795
e-mail	cdcr@menara.ma
B.2 Other partners	
Name	<i>Italian Vento power Corporation (IVPC)</i>
Type of organisation	Private Company
Address	Italian Vento Power Corporation. Via Circumvallazione, 54/H - 83100 Avellino - Italy
Contact person	Dr. Salvatore Grasso

Telephone/ fax	+39 0825 792338
e-mail	Salvatore.grasso@ivpc.com
Name	<i>EMD (Denmark)</i>
Type of organisation	Private Company
Address	EMD International A/S - Niels Jernesvej 10 - 9220 Aalborg Ø Denmark
Contact person	M. Per Nielsen; Lars-Bo Albinus
Telephone/ fax	
e-mail	
Name	<i>ONE (Office Nationale d'Electricité)</i>
Type of organisation	Public

C. Technical description of the project

C.1 Technical description of the project

Studies carried out in the past and led by CDER, have shown the existence of several favourable regions for wind energy use in Morocco. This has led to the realization of two wind parks, while others are scheduled for the future.

This project will evaluate the possibility of integration into the electrical national grid of the wind energy generated in other potential sites (Tangier, Ksar Sghir, Taza, Safi, Tan-Tan and Tarfaya).

The objective of the project is then to develop a procedure giving the ability to analyze in detail specific problems associated with wind energy exploitation and integration into the national grid as well developing an initial evaluation of a potential investment project taking into account the following elements: wind energy performance, grid interconnection aspects and macro-siting (height from the sea level, terrain slope and aspect, wind speed potential, distance from urban areas, etc...). In case the national grid is not capable of accommodating these additional resources, alternatives consisting of necessary adjustment to the grid will be proposed and discussed.

The project activities include:

- Identification of sites;
- simulations and calculation of the energy production by each site;
- network analyses;
- economic analysis of investment to estimate profitability
- capacity building and dissemination.

Specific Software will be used to carry out the project phase. The project will be conducted in close collaboration with ONE and is intended to provide a programme-based approach to be replicated nation widely.

C.2 Photo/drawing of the project/building:

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C.3 Typical indicators	Investment - euros	100.000
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C.4 Detailed technical indicators	
M ² installed	-
Power per m ²	-
Delivered power	-

D. GHG emissions: reduced / avoided

D.1 Type of GHG reduced or avoided	
CO ₂	-
CH ₄	-
N ₂ O	-
HFCs	-
PFCs	-
SF ₆	-

D.2 Base line	
Description of the level of reference	-
Other elements	-

D.3 Total emission reduction per year	
In Tons CO ₂ equivalent	-

D.4 Estimated CER gains - thousand euros			
Estimated price (euros/t) - Tons CO ₂ equivalent	3	5	10
Total estimated gain			

E. Financial aspects

E.1 Estimated costs - euros	
Total investment	100.000

F. Contribution of the project to sustainable development	
Natural environment	<i>Wind Energy diffusion will result in reduced impact on the natural environment from traditional energy sources</i>
Social (employment, health, education, ...)	<i>Development of common understanding of problems involved with the integration of wind energy into the electricity national grid, as well as of Renewable Energies in general; opportunities of employment for future wind parks installations.</i>
Economy (local, national, ...)	<i>Awareness of investors about the business opportunities and risk coverage related to the implementation of wind parks; Examination of the economic viability of private investments in wind energy sector, taking into account existing regulations (legislation, dispatching rules, market liberalization, energy buy-back price, etc..) and current financial environment. National and local economy will be potentially impacted by new wind energy installations.</i>

G. Other relevant information	
List of available documents	-MoU between IMET and CDER (Framework for project development) -Minute of the kick-off meeting of the project, including programme of the activities -Project Final Report