



Renewable Energy - Pakistan Perspective

**International Conference
on Alternative Energy & Power**
Karachi, 14 March 2013

Renewable Resources
Irfan Afzal Mirza
Lahmeyer International GmbH
Dr. Patric Kleineidam



RE2 AND LI - List of Projects

- 50 MW Three Gorges First Wind Farm Pakistan (Pvt) Ltd Owned By China Three Gorges Corporation
- 100 MW UEP Wind Power Pvt. Ltd Owned By United Energy China
- 100 MW Wind Eagle I and II
- 50 MW HAWA Energy (Pvt.) Ltd
- 50 MW Master Wind Energy (Pvt.) Ltd
- 30 MW Tapal Wind Energy (Pvt.) Ltd
- 05 MW Pakistan Wind Energy Generation (Pvt) Ltd
- 100 MW (2 X 50) FF PROJECTS NATIONAL BANK OF PAKISTAN
- 50 MW YOUNUS ENERGY FOR HABIB BANK LIMITED OF PAKISTAN
- 50 MW Zorlu For International Finance Corporation (Ifc)
- 10 MW ROSHAN POWER (Pvt) LTD OWNED BY BEACONHOUSE GROUP
- 02 MW FIRST SOLAR (Pvt.) Ltd Owned By Monitor Associates (Pvt) Ltd
- 50 MW Malakwal Power (Pvt.) Ltd Owned By Beaconhouse Group
- Promoting Sustainable Energy Production And Use Of Biomass In Pakistan – A Project Of Winrock / Unido.



OPL

HAWA

MET

CA

LKY

SHL

WE-1

WE-2

UEP

HOM

TGP

MAS

UEP

FFC

ZGR

TCNG

TCNE

TCNA

Fina

PWE

TITAN

HAE

AS

TL

Ismall

CSE

FWECL

Kairi Lake



RE2 AND LI- Environmental Studies

- IEE of 50 MW Wind Power Project of Master Energy Pvt. Ltd in Jhimpir
- IEE of 50 MW Wind Power Project of Three Gorges First Wind Farm Pakistan (Pvt.) Ltd in Jhimpir
- IEE of 50 MW Wind Power project of Zephyr Power (Pvt.) Ltd in Gharo
- IEE of 50 MW Wind Power Project of New Park Energy (Pvt.) Ltd in Gharo
- IEE of 42 MW Wind Power project of DHA City Karachi
- IEE of 05 MW Wind Power Project of Pakistan Wind Energy Generation (Pvt.)Ltd in Jhimpir
- EIA of 50 MW Wind Power Project of Hawa Energy Pvt. Ltd
- EIA of 100 MW Wind Power Project of UEP Wind Power Pvt. Ltd
- IEE of 2 X 50 MW Wind Power Project of Wind Eagle-1 & Wind Eagle-2
- IEE of 30 MW Wind Power Project of Tapal Wind Pvt. Ltd
- IEE of 2 x 5 MW Solar Power Project of TechAccess FZE L.L.C in Pind Dadan Khan
- IEE of 02 MW Solar PV Power project of First Solar Pvt. Ltd in Kalar Khar, Punjab
- IEE of 50 MW Solar power Project of DACC Power Generation Company Limited
- IEE of 10 MW Solar Power Project of Roshan Power Pvt. Ltd in Kasur Punjab Pakistan
- IEE of 50 MW Coal Power Project of Malakwal Power in Punjab Pakistan



RE2 AND LI – OTHER PROJECTS

- Development of Micro Finance System for MFIs / DFIs to support Off-Grid Solar PV Applications – A Project of GTZ.
- Development of microfinance schemes for solar households in Pakistan – A Project of ENERCON
- Feasibility of Cultivation and Production of Biodiesel in Cholistan Punjab Pakistan-A Project of DACC Power Generation Company Pvt. Limited



Potential Technologies

- Wind
- Solar PV
- Solar Thermal
- Biomass / Biogas / Biodiesel
- Micro and Mini Hydel



Conceptual Clarity

- IPP Mode
- Other Options
 - Net-metering
 - Wheeling and Banking



IPP

- Project Development Phases
- Issues
 - No one like uncertainty
- Financing is the key



Net-metering

- Stakeholders
- Policy Implementation
- Technology Options
- Grid acceptability
- Financing options
 - Australian Example



Wheeling and Banking

- Is it conceptually workable in Pakistan???
- Issues???



Conclusion

- Holistic Picture
- Create Success Stories
- Financing Mechanisms
- Targets