



Human Resource Development for Indian Wind Power Sector

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HR DEVELOPMENT : NEED OF HOUR

G8-Renewable Energy Task Force report (2002) findings:

To secure sustainable commercial success, key barriers for renewable are...

- Insufficient human and institutional infrastructure*
- Limited capacity to support projects and markets, owing to lack of experience and investment*

EWEA and Greenpeace, Wind Force-12 (2003) Report :

...employment in wind power sector could grow from approximately 114,000 jobs in 2001 to 1.47 million jobs in 2020 if wind energy then meets 12% of the world's electricity needs

Mr. Don Hurd, CEO, E3 consulting group, Denver (2005):

...Utilities facing future staff shortages, the wind energy sector is no exception to an industry wide staffing trend

HR DEVELOPMENT: IMPORTANCE FOR INDIA

- Bedrock of high productivity of any organisation. Helps in building dynamic organisation to accept business challenges
- Consistent high growth rates during last few years worldwide. Business focus shifting from EU to Asia (China and India)
- To fulfill and sustain the growing demands in the sector, more trained personnel requirement projected in this part of the world in near future
- Skill and trained manpower shortage could prove as a bottleneck for expansions and may drive payrolls upwards
- Availability of trained, skilled manpower can play an important role in sustainable growth of sector. China has taken a lead and addressing the need in a structured manner

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HR DEVELOPMENT: IMPORTANCE FOR INDIA...

- **WISE Survey** : About 25 Institutes offer M. Tech. or M.E. (Energy or Renewable Energy) related full time courses. Thrust is on KNOW WHY? rather than on KNOW HOW. Hence not tuned up with RE Industry's requirements
- Generalized curricula's. Very few institutes like IIT Powai offers full course on wind energy. Total intake for all M. Tech./ M.E programmes close to 400, very few opt for wind power course or career
- No focused academic curricula exists at graduate /diploma level to address wind power Industry's growing HR needs
- Increasing employment trend in the Indian Wind Power Industry
- Urgency of HR development on entry of PSUs like ONGC, IOC, NTPC and industry giants like Reliance

Major HR challenges :

To keep pace with the international development ,

To sustain the present growth rate,

Lack of subject knowledge and managerial skills to meet huge demands

WISE HR SURVEY : INDIAN WIND POWER SECTOR

'National Survey on Human Resource Needs of Wind Power Sector In India' – conducted by WISE in 2004- 05 in Association with Zenith Energy Services, HYD

Approach : Questionnaire, Personal visits & discussions, Desk Studies. About 55 organizations including major wind turbine manufacturers, SNA, SEB, Academic and financial Institutions, Govt . agencies participated

Activity based manpower requirement assessment carried out for Six phases of wind power projects;

- Pre-siting activity
- Infrastructure
- Manufacture
- Assembly and erection
- Commissioning
- O & M

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WISE HR SURVEY: Employment Assessment for India

- **Direct employment-** manufacturing, delivery, construction, installation, project management, O&M
- **Indirect employment-** component manufacturing and materials supply, its transport, software development, training, input for heavy equipments, machinery handling devices, tourism development etc.

Methods for assessment

- Statistical methods- collation of quantitative information available from various sources
- Survey route, analytical methods-based on manpower required for different activities related to project over its life time

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WISE HR SURVEY: CONCLUSIONS

Quantitative approach

- Direct employment (As on Mar. 2006) - 10,000 (5.7 / MW)
- Indirect Employment (As On Mar 2006) – 40,000 (22.9/MW)
- Total employment generated (Mar 2006) – 50,000 (28.7 / MW)

Analytical Approach

Assuming 100% Indegenisation of technology at todays level annual installations capacity, 30,000 jobs would have been created in direct mode.

- By 2015 - About 34,000-53000 persons would be directly employed
- Indirect employment would be 3 to 4 times of this direct employment.
- 70-80 % of the requirement would be in technical & skilled category
- Skilled O&M personnel will be in most demand

Different approaches used for estimation of manpower requirements lead to substantial variations in assessments or projection figures.

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WISE HR SURVEY: CONCLUSIONS

Three Factors influencing HR requirement :

- Technology - Average Size of turbine
- Equipments and Communications devices
- R & D support

-Competency and skill mapping exercises for different level jobs and functional areas is essential to revamp technical education curricula

-The focused academic program should be devised to impart subject knowledge and managerial training along with soft skill development

-Industry participation in HR development is crucial because of field experience

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HR TRAINING AND CAPACITY BUILDING

HR training

- Industry efforts : In house training programmes, mostly focused on introduction to technology, industry culture, manufacturing or assembly and O&M of wind turbines
- Major turbine manufacturer : own training/ learning centres
- Institutional efforts – Occasional short duration training programs organized by C-WET, WISE, NITTTTR , Industry associations. Coordinated efforts required.

New capacity building programme must

- Individual- on the job, in service training
- Institutional- trainer's training programme, EB, SNAs
- Societal – Media, NGOs

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FUTURE ACTION PLAN

- Revamping of technical education curricula at PG, Graduation, Polytechnique and ITI level to suit wind power needs
- Training of Trainers – Faculty improvement programs on wind energy, RE in general
- New dedicated courses –Short term and Long Term duration on wind energy technology, wind power management
- National program on institution building for research and development for wind power sector with coordinated approach.
- Identification of crucial areas and competency mapping exercise

Thanks.....

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