

## Vision, Mission and Values

### Vision

To be the Global Centre of Excellence for Training and Skill Development in Power and Energy Sectors.

### Mission

Enhancing human and organizational excellence in Power and Energy sectors by blending frontier clean energy technologies to achieve economy and energy security.

### Value

We value our drive and commitment to provide cutting edge technologies and top quality service to our clients, sharing our knowledge and caring for their needs.

### Attitude

We constantly strive to motivate every power professional to tap his unique human endowments, consciousness, imagination and willpower. Together we make a difference.

### Objectives

To leverage its core competency of intellectual capital for catering to the growing needs of Power and Energy sectors.

### Detailed Comprehensive Objectives

- To enhance existing skill sets in upcoming technologies to prepare efficient manpower and maximize employment opportunities.
- To align the programs with the Ministry of Power's objectives and emerging National Electricity Plan for 2017-22 & 2022-27.
- To bring about complete awareness to personnel in the power sector about MoP initiatives such as DDUGJY, IPDS, UDAY, 24x7 Power for All etc.
- To conduct Skill development Programs in all areas of Generation, Transmission, Distribution, Equipment Manufacturing and Power Trading including Renewable Energy Sources, to achieve the Ministry of Power's target of training and skill development of Manpower.
- To support Country's Smart City Program, Rural development through Training Programs on Smart Grid, Decentralized Generation & Distribution, Demand Side Management (DSM), Peak Load Management with upcoming Electric Vehicle Charging Stations, etc.
- To conduct Programs on Policy & Regulatory Framework, Commercial Aspects, Energy Conservation and Energy Efficiency, Power Markets, Availability Based Tariff & Concept of Deviation Settlement Mechanism, Open Access in Power Sector etc.

### Detailed Framework

NPTI proposes to conduct Skill development Programs in all areas of Renewable Energy Sources, Smart Grid, Smart Village development, Decentralized Generation & Distribution, Programs on Regulatory Framework & Commercial Aspects, Demand Side Management & Energy Efficiency, Power Markets etc. to achieve the Ministry of Power's target of training Seven (7) lakhs Manpower in the Skill development and other associated programs.

The Programs would aim at developing the skill sets of Fresh personnel thereby improving their employability and refining / improving the skills of practicing Engineers, Diploma Engineers & Technicians, Consultants, Entrepreneurs and Faculty of Academic Institutions through Training-of-Trainers programs etc.

- Solar PV, Solar Roof Top, Solar Building Integrated (SBIPV) PV, Solar Thermal Technologies including Project Planning, Execution & Certification comprehensively including Resource assessment, Site selection, Shadow analysis, Load Calculation and Analysis, Procedures, permission & approvals, module mounting structures, Inverters, Cables, DC & AC Junction boxes, Lightning Arresters, Surge Protection, Fault Analysis, Earthing, O&M, Inspection, Testing & Commissioning, DPR preparations, Financial Modelling, commercial and financial aspects etc.
- Introduction to Wind Energy technology, Government policies and supportive schemes, Wind Resource Assessment Techniques, Wind flow modeling, Wind data analysis, Overview of Wind Turbine Design & Foundations, Grid integration, O&M aspects of wind farms
- Introduction to biomass to energy - biofuels, Present status of biomass based energy in India, Biomass Resources, Technologies, Basics of Gasification and types of Gasifiers, Sizing/Selection of Gasifiers, Technology and process overview, Successful Project Examples, Issues and challenges
- Conducting comprehensive training programs for Small Hydro Power development and develop the required operation, maintenance & commissioning skills at all levels such as for engineers, technicians etc.
- Develop smart villages by developing Solar parks in villages, which would not only generate revenue but also develop self-reliant economies including industries at village level bringing urban amenities to rural areas retaining the soul of the village.
- Conducting Training Programs for strengthening Urban Centers infrastructure.
- Decentralized Distributed Generation (DDG) and Micro-grid smart projects (solar, mini & micro hydel etc.) in remote areas & villages to not only make them self-sufficient but also promote the concept of Green Energy etc. and increase local employability as well.
- All Renewable Energy Modules to be equipped with integrated smart grid control to avoid least excursions at the point of connectivity.
- Bringing about complete awareness to personnel in the power sector about MoP initiatives such as DDUGJY, IPDS, UDAY, 24x7 Power to All Schemes etc.
- Programs on DSM & Energy Efficiency may be regularly announced and conducted for maximum awareness. Retailer programs for awareness in energy efficient equipments and Energy Conservation techniques for street lighting including automated switching on-off LEDs, Energy Efficient agriculture pump sets etc. in association with BEE / EESL.
- Awareness Programs on Climate change, carbon credits & Global warming issues.
- Courses on “Regulatory Framework & Commercial Aspects” of Indian Power Sector aggressively through Distance learning Mode educating all Utilities personnel at their doorstep through e-learning Modules & Assignments for greater understanding of Regulatory & Commercial concepts like Tariff calculations, MYT Framework, Trading etc. thereby improving the pace & effectiveness of Power sector reforms at large.
- The addition of 175 GW of renewable generation capacity by 2022 would require improving the System Operators skill-sets for planning, operating, maintaining and governing the power systems. NPTI would conduct Capacity building Programs for POSOCO - SLDCs, RLDCs and others associated to manage green energy corridors effectively. Also, all associated functions of Renewable Energy Management Centres (REMC) such as forecasting, Scheduling, balancing Renewable Energy resources and supporting the national grid etc.
- Programs on Power Market Transactions focusing on the Concept of Power Trading, Power Exchange mechanism in India, Availability Based Tariff & Concept of Deviation Settlement Mechanism, Open Access in Power Sector etc.
- The 24x7 Power for All, scheme of the Govt. of India would need intensive capsule courses for capacity building of personnel in the areas of Generation, Transmission & Distribution including various commercial aspects. This is to be taken up with all the State Utilities which have signed MoU with Ministry of Power under UDAY.
- Entering into proper understanding / agreements etc., and interfacing with Power Sector Skill

Council (PSSC) to carry on the mission of Skill development training activities and certifying personnel for their appropriate employment in various areas of power sector and other areas as well.

- Conducting Training Programs for State Distribution Utilities on Smart Meters, AMI and associated infrastructure, Peak Load Management, Demand response and Outage Management System.
- Programs on Smart Grid highlighting the Concept, Understanding of Intelligent Power System, Achievements & Challenges. The Program would also focus on the need of Smart Grid in Indian context.
- The recent significant progress between the South Asian countries on moving towards expanded regional energy cooperation should be exploited to harness programs and NPTI proposes to conduct programs under USAID and for the SAARC countries in several areas of power sector as well as for others.
- Creating academic-industry interface short modular programs to effectively bridge the education-industry gaps for students passing out from Engineering, Diploma & ITI institutes.
- Delivering course modules & training in Supercritical technology to all GENCOs using this technology.
- Identify Knowledge Partners for Creating a Global Pool of competent experts in various areas of specializations to maximize connectivity and contribute to the concept of “Train in India”.
- Collaborating with reputed Institutions & Industries like IIT/IIM/ASCI/TERI/Nord Pool to be abreast of latest technological & managerial improvements of the industry.
- Create an authenticated institute-industry feedback interactive portal.
- Developing subject specialists in various areas and increasing internal Core Competence of NPTI through Training of Trainers programs.

## **Integrated Management Policy**

NPTI is committed to enrich Human Resources in the Power Sector with frontier technologies, managerial skills and practical exposure; empowering them for sustainable and environment friendly growth of the Nation in compliance with legal provisions.