

Environmental and Social Due Diligence Report

Project Number: 47083-004
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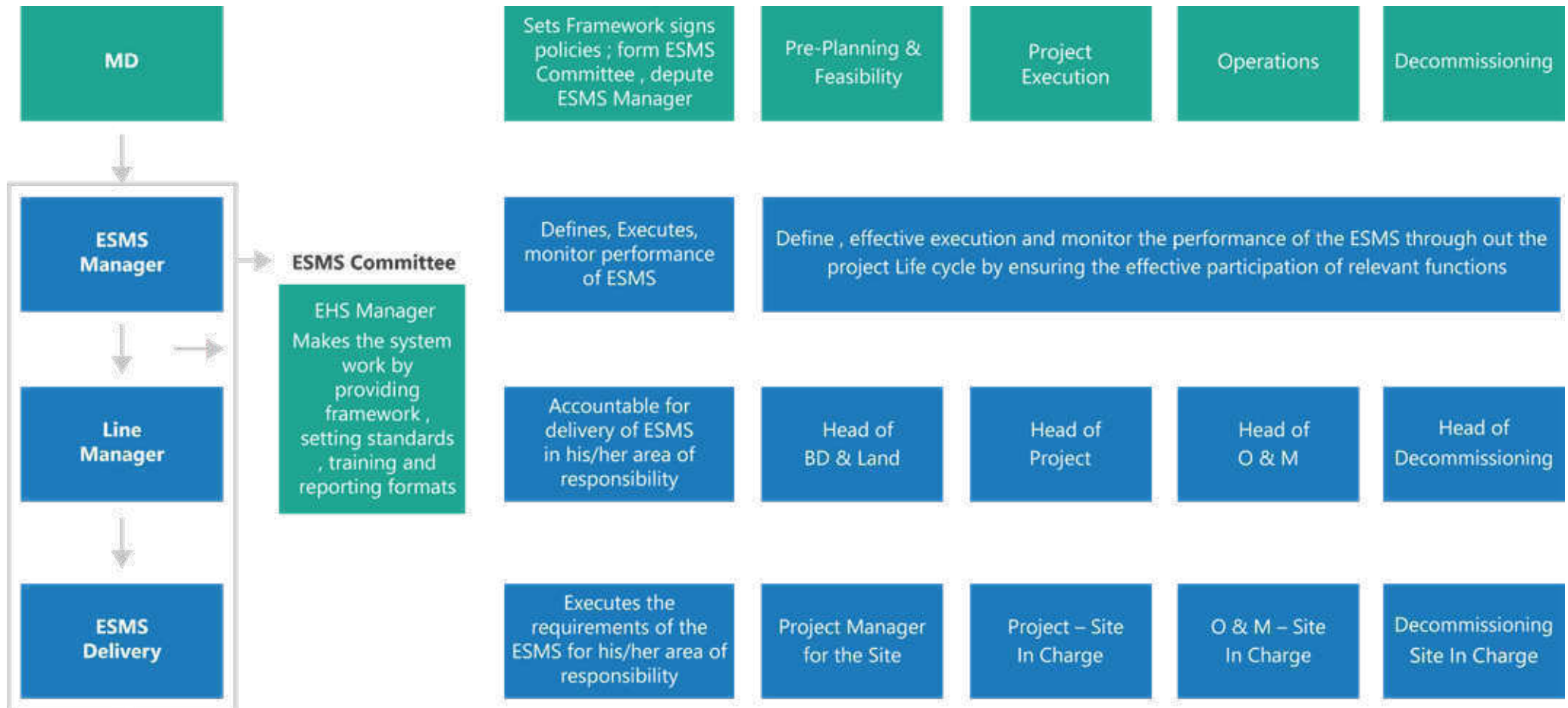
INDIA: Accelerating Infrastructure Investment Facility in India – Tranche 3 Mytrah Vayu (Krishna) Private Limited (Part 5 of 10)

Prepared by India Infrastructure Finance Company Limited for the India Infrastructure Finance Company Limited and the Asian Development Bank.

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ESMS : Principle Roles In Project Cycle





8. Institutional Structure and Capacity for ESMS Implementation

The institutional structure for ESMS implementation involve representatives from various departments governing environmental and social management.

Mytrah's operating model places the key responsibility for each of those identified activities under ESMS on the Project manager during project planning, Site In-Charge during execution, who is supported by his team locally and by the functional experts in Head Office. Mytrah senior management will ensure strong governance of Environmental & Social Management System, aligned with existing integrated ISO management system under the umbrella of effective Operations Management System through the Management Review Committee.

The ESMS would be governed and guided by an ESMS Committee (here it is existing Management Review Committee at the corporate level), coordinated by the ESMS manager (here it is Management Representative) which shall comprise of Site in charges and strategic leaders from the various departments (considered in Existing Management Review Committee), who will oversee the implementation of the policy level objective throughout the organization's operations. Furthermore, some functional heads/ their representative like Finance, Land, Legal, Project, HR & FMS will be invited in ESMS/MR committee meetings for proper supervision, monitoring the ESMS attributes as domain champions. On behalf of ESMS/ MR committee, ESMS manager/ Management Representative will be authorized to invite Functional Head/ their representatives in the specific meeting at regular interval for continual improvement of ESMS at corporate as well as Asset level.

The following section discusses the ESMS committee (here it is Management Review

Committee), its composition and roles and responsibilities. Subsequently, it also discusses the roles and responsibilities of the ESMS Manager (here it is Management Representative) as well as the Site In-charges (Project / O&M) will be worked as onsite EHS representative.

8.1 ESMS Committee

In order to implement this ESMS, MEIPL has established an ESMS committee (here it is existing Management Review Committee) at the corporate level. As ESMS functions are based on cross functional and inter departmental activities on Environment and social attributes, additionally some functional heads / their representative like Finance, Land, Legal, Project, HR & FMS, CSR will be invited in ESMS / MR committee meetings for proper supervision, monitoring the ESMS attributes as domain champions. On behalf of ESMS / MR committee, ESMS manager/ Management Representative will be authorized to invite Functional Head/ their representatives in the agenda specific meeting at regular interval for continual improvement of ESMS at corporate as well as project/asset level.

8.1.1 Roles and Responsibilities of the ESMS Committee (Existing Management Review Committee)

The ESMS/ Management Review Committee will supervise environmental and social performance in the company and will set clear lines of reporting as well as roles and responsibilities. The management of environmental and social issues shall continue to be led by the site In-charges and other designated personnel governed by senior management at corporate level, who understands the integration

of the environmental risks and impacts into the business as a whole. The and site-incharges will functionally report through the line and take support from EHS team to plan, execute the ESMS assigned jobs. Similarly, project manager / site-incharge will be responsible for ESMS implementation and maintain the system in construction phase under direct supervision of Project Head and with help of EHS team. In solar business, site in charges in Project and Operation will function as ESMS representative at project and asset level respectively. They will report through the line for effective implementation of ESMS with support and guidance of EHS team. MEIPL's Management Representative of Integrated ISO management system, Asset Management will be appointed as ESMS Manager, who will periodically present an update on environmental and social performance before the ESMS / Management Review Committee.

This Committee would be responsible for the following functions:

- Review and approval of the screening, categorization and ESDD reports of new projects;
- Successful implementation of the ESMS at the corporate level and of environmental and social management plan/activities and mitigation measures at the project/asset level
- Closure of the Action Plan for timely and regularly updating of Environment and Social systems
- Integration of the identified risks, impacts and mitigation measures into the business operations as a whole and understand the financial competency to address the same
- Monitoring of project compliance and implementation status of ESMS
- Reporting of ESMS performance and project safeguard performance to MEIPL management and to relevant stakeholders annually.

8.1.2 Roles and Responsibilities of the ESMS Manager (existing Management Representative)

MEIPL's Management Representative of Integrated ISO management system, at the corporate level would be appointed as the ESMS Manager and will be assigned with the following roles and responsibilities:

- Overall in-charge for implementation and communication of the EHS &S Policy, associated policies and meeting ESMS performance objectives at corporate and individual project / asset levels respectively through Site In charges
- Ensuring compliance of existing and future operations with respect to the applicable national laws, rules and regulations, permits pertaining to Environmental, Safety, Health and Social as well as international best practices including reference frameworks such as The IFC Performance Standards and ADB's Safeguard Policy Statements
- Ensure compliance and implementation to ISO and other relevant management systems
- Procure and provide adequate resources for effective implementation, operation and continuous management of Environmental, Safety, Health and Social management systems within the organization
- Shall include explicit and quantifiable EHS & Social activities and results in performance plans and appraisal systems at the asset level through appropriate functional department and site-incharges.
- Will assess overall performance and effectiveness of the asset level EHS management
- Will be authorized to invite Functional Heads/ their representatives related with ESMS implementation in Corporate/Project/ O&M in the agenda specific meeting at regular interval for continual improvement of ESMS.

8.1.3 Roles and Responsibilities of an onsite ESMS representative (here Site – In charge & Project manager)

The project/ asset level or onsite ESMS representative shall be responsible for:

- Ensure project/ asset level implementation of ESMS designated processes pertaining to different project lifecycle phases
- In-charge of overall EHS compliance of his/ her respective asset
- In-charge for day to day EHS compliance at the site
- In charge of maintenance of necessary records and documents pertaining to EHS compliance
- Ensuring training and capacity building of employees on EHS standards and performance
- Compliance monitoring, record keeping on EHS&S attributes under ESMS frame work and reporting to ESMS manager (Management Representative) through line manager at the corporate level
- Receiving, handling and resolution of grievances including its documentation
- Organizing public consultation as per the applicability of ESMS.

In wind / solar Power Projects where the turnkey contractor will lead on actual site level EHS management, the project manager/site incharge's role will be focused on:

- Incorporation of environmental and social requirements (in line with ESMS) in the bidding documents for selection of turnkey contractor
- Review of implementation plan and schedule of the turnkey contractor to ensure compliance to MEIPL ESMS provisions
- Training of Turnkey contractor team on ESMS requirements
- Implementation of contractor's EHS manual/ Plans
- Monitor the turnkey contractor for implementation of ESMS designated processes pertaining to different project lifecycle phases
- Compliance monitoring, record keeping with evidences in line with Mytrah's ESMS and reporting to ESMS Manager at the corporate level
- Monitor receiving, handling and resolution of grievances, public consultations including its documentation



9. Monitoring and Reporting

MEIPL shall monitor and measure the effectiveness of ESMS and structural aspects covering various stakeholders including contractors, labourers, suppliers and the local community (as per the applicability) impacted by the project activities and associated facilities. Inspection and monitoring of the environmental and social impacts as part of construction and operation phase activities will increase the effectiveness of the implementation of this system. Through the process of inspection, audit and monitoring MEIPL will ensure that all the requirements of conditions within this manual are effectively met. The inspections and audits will be done by MEIPL's internal team and external agencies / experts as required by ESMS. The entire process of inspections and audits will be documented. The inspection and audit findings will be implemented by the contractors too in their respective areas, wherever applicable.

9.1 Performance Monitoring and Measurement

MEIPL's monitoring program shall be overseen by the ESMS Manager (Here Management Representative) in the organization. The purpose of monitoring for each asset level shall be:

- To track performance and comparing against the established benchmarks or requirements in the ESMS
- To record information to track performance and establish relevant operational controls
- To establish key quantitative and qualitative measures for social, environment, health and safety indicators
- To verify compliance against the national laws and regulations and investors' safeguard requirements and progress towards the desired outcomes
- To reflect the necessary corrective and preventive actions in the ESMS

- The ESMS Manager shall receive periodic performance reviews of the effectiveness of the ESMS based on systematic data collection and analysis from the Site level ESMS representatives (here site In-charges). Based on results, the ESMS manager shall take the necessary and appropriate steps to ensure the effective implementation of the ESMS. The Performance Monitoring shall be carried out annually at every asset level.

At a given point of time, the overall monitoring implementation shall be the responsibility of the ESMS manager (Management Representative) at the corporate level. At the asset levels, all monitoring and reporting activities would be undertaken by the asset level ESMS personnel (here site-incharge of Project/ Operation) during the construction and the operations phase of activities.

9.2 Records and Record Management

The ESMS Manager (here Management Representative) of MEIPL shall ensure that the corrective and preventive actions are implemented and a systematic follow up is done to ensure their effectiveness. MEIPL shall also undertake monitoring of its assets by a third party consultant at five years' interval as a part of its Operations Management System audit program. Findings of the monitoring shall be evaluated and documented. The monitoring documents shall be maintained both at the asset as well as the corporate level. The ESMS representative (here site -in charge) at the asset level shall maintain the records of the periodic monitoring in order to evaluate the gaps addressed and closed items of the action plan.

Periodic reporting of progress and monitoring results shall be made to ESMS Manager (here Management Representative) and ESMS/ Management Review Committee thereafter for review and amendments, if required. Reports shall furnish the information and data needed to determine compliance with relevant legal requirements as highlighted in Annexure D.

The format of these reports shall be similar at all the asset levels and shall include a summary of findings and recommendations. This information shall also be made available broadly within the asset operations management and to workers as appropriate.

9.3 Reporting

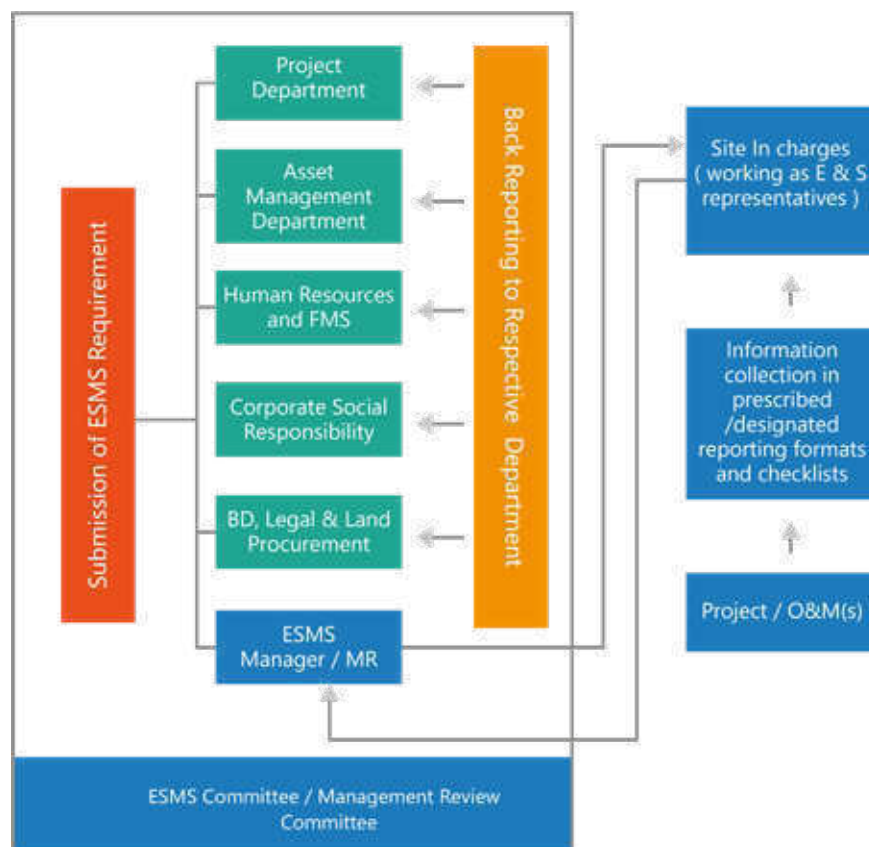
MEIPL will develop and implement a reporting program through all stages of the project lifecycle. The Site- In charge at asset level shall be required to fully comply with the reporting requirements in terms of timely report submission with acceptable level of details and should submit to the ESMS manager/ Management Representative at corporate level. Reporting is to be done in form of environmental, health, safety and social check list, incident record register, environmental, health,

safety and social performance reports at required intervals.

9.3.1 Internal Reporting

An internal reporting system as illustrated in Figure 9.1 is required to be established which shall meet the requirement of periodically monitoring the effective implementation of the ESMS objectives. Inspection and audits finding or any other informational requirements from the asset level is required to be back communicated by the ESMS representative (or staff with similar responsibilities during operations phase) to the ESMS manager and the committee at the corporate level. The communication is to be triggered by the respective department as per the specific ESMS requirement, discussed within the ESMS / MR Committee and communicated by the ESMS Manager to the asset level to receive required input or feedback.

Figure 9.1 Internal reporting and communication mechanism for ESMS implementation



9.3.2 Reporting to Investors

MEIPL will report commensurately to the significance of environmental and social impacts from its projects / O&M Plants. The ESMS committee/ Management Review Committee will prepare and submit environmental and social performance report on annual basis (considering the financial year) within six months after ending the financial year or as otherwise agreed with stakeholder/s. (a sample reporting format has been attached as part of **Annexure O**), summarizing:

- Environmental and social impacts of projects undertaken by the MEIPL, including progress and performance for each project as per the established Environmental and Social Management Plan, Resettlement Action Plan, or any other similar management plans under implementation
- Any areas of non-compliance or other issues arising from the environmental and social safeguards, including resettlement (for each individual investment) and a description of any prospective investments where such policies may be triggered
- Performance review of the effectiveness of the ESMS

9.3.3 Other External Communications

Other forms of communication including complaints and enquiries especially from external stakeholders such as community, local administration etc., are required to be appropriately dealt with and records to be maintained by the Site In-charges /onsite EHS personnel or another delegated staff. These records have to be back communicated to the ESMS manager/ Management Representative at the corporate level periodically (or immediately in case significant).

9.4 Auditing

Audits are the tools by which the ESMS management matrix is monitored at all the project/asset levels.

At MEIPL, internal audit schedules shall be planned and approved annually by the ESMS Manager to determine the conformance of the assets to the requirements of the ESMS. At each asset level, the inspections shall be verified by ESMS / MR Committee at corporate level and recorded in the form of a gap assessment, adding a Corrective

Action Plan to be worked on. Non-conformances shall also be highlighted during the audits for each asset level for further consultation and open ended discussions with the ESMS / management Review Committee.

The main aim of including this aspect is to regularize the implementation of the ESMS at all asset levels and enhance the understanding of the activities and risks with adequate mitigation measures.

Considering routine audit/ due diligence for integrated ISO, OMS at Asset level, third party competency audits shall be commissioned by MEIPL at five years' interval as a part of its routine Operations Management System Audit and subsequently ISO audit.

9.5 Management Review

The ESMS / Management Review Committee shall monitor and measure the effectiveness periodically reviews the ESMS implementation being supported by the Site In charges / designated EHS officers at the asset level. They will be responsible to produce a monthly update on compliance to Health & Safety at their site through adequate documentation. This statistical information shall be collated into a report aligned with existing ISO records on monthly basis and presented the summary report to the ESMS / Management Review committee meeting for further discussion. Site In-charges will also provide specific site reports for the asset level to ESMS Manager/ Management Representative to provide them with progress against targets for compliance. Annually, there should be an internal auditing system to ensure the continuing suitability, adequacy and effectiveness of health, safety and environmental arrangements. Thereafter, the review of this document is to be carried out by the ESMS committee for addressing the following:

- Review of issues/initiatives raised through individuals
- Review of implementation of ESAP, EMP, RP, Scheduled Tribes Development Plan/IPP and EHS accidents, incidents and complaints
- Review of Audit Results
- Applicability of EH&S policies and procedures
- Review of Objectives and Targets and status to date
- Review of Management structure, resources and training requirements.

Annexure A

Summary of State Level Policies for Wind & Solar Power Plant





COMBINED SUMMARY OF STATE POLICIES FOR WIND POWER PROJECTS

Sl. No	Name of State/ Description	Andaman & Nicobar Island (From RE policy of state)	Andhra Pradesh (From RE policy of state)	Bihar (From RE policy of state)	Chhattisgarh (From RE policy of state)
1	Order Date	Policy for power Generation through New and Renewable Energy Sources in Andaman and Nicobar Island- May 2012	<ul style="list-style-type: none"> New wind power policy- G.O. Ms. No.48 dated 11.04.2008 and Amendment dated 09.09.2008 G.O. Ms. No.19 dated 16.03.1996 	Bihar Policy for promotion of New and Renewable Energy Sources 2011- Resolution vide Letter No.PRA-02/BREDA-APRA NITI-11/08/2845 Dt.24/06/2011. This policy supersedes the previous policy i.e. "Policy for Private Sector Participation for Developing Non-Conventional Energy Sources", issued in 2003 and ended in 2008.	Wind Energy Policy vide Notification No. 1905/2006 dated 7th August, 2006
2	Eligible Producer	Registered companies, Corporations and Co-operatives/registered society, NGOs, local self-governments, partnerships and individuals	<ul style="list-style-type: none"> Wind Farm Developers, Wind Energy Generator (WEG) manufacturer, Govt. owned Co. Joint Venture Co. and Private Investors. Minimum Turbine Capacity of WEGs to be 225 kW 	Any Industry, Institution, Private Agency, Partnership Firm, Consortia, Panchayat Raj Institutions, Urban Local Bodies, Co- Operative or Registered Society.	
3	Land Allotment	<ul style="list-style-type: none"> Developer to arrange land at his own cost. 	<ul style="list-style-type: none"> Developer to be allocated Govt. land to harness up to maximum 200 MW 	<ul style="list-style-type: none"> Government land in an Industrial Area, if available and identified by the developer, may be leased in accordance with the applicable GoB policy 	<ul style="list-style-type: none"> Govt. land on lease

		<ul style="list-style-type: none"> Govt. land, if available, would be charged on nominal monthly lease rent of Rs.1.00 only for the entire period of the project, subject to further renewal on mutually agreed terms and conditions. 	<ul style="list-style-type: none"> Private land from land owner on their own 	<ul style="list-style-type: none"> The developer may purchase private land directly from the owners. Use of agriculture land may be allowed for non-agriculture purposes 	<ul style="list-style-type: none"> Private land to be acquired by the Govt. and made available to the party at acquisition cost.
4	Operative Period	From the date of publication in official gazette and remain in force until 2017 or until modified or superseded.	5 Years from date of Policy	From the date of notification and will be valid for a period of 5 Years from date of notification	From date of publication in the Gazette till revised.
5	Sale of Power and Tariff	Power producers can use the power generated for captive consumption or for sale to other bulk consumers/ licensees including Electricity Department, A&N Administration.	<ul style="list-style-type: none"> For captive use, third Partys ale or to DISCOMS First 10 years from COD - Rs.3.10 / unit 11th to 20th year as per APERC 	<ul style="list-style-type: none"> Third-party sale or captive use permissible, using BSEB network on payment of BERC approved open- access charges. Third party, if any, must be an HT consumer procuring at least 1 MW Sale of electricity. Captive power developer may sell excess power to state grid/ BSES, if the power available is over 1 MW. 	<ul style="list-style-type: none"> First to State Government /Agency at the CSERC rate. Otherwise to third party.

Sl. No	Name of State/ Description	Andaman & Nicobar Island (From RE policy of state)	Andhra Pradesh (From RE policy of state)	Bihar (From RE policy of state)	Chhattisgarh (From RE policy of state)
6	Wheeling	2% of the energy fed to the grid	Concessional wheeling and transmission charge in kind @ 5% of energy delivered into the grid (including T&D losses) for captive use or third party sale	BSEB to extend the facility of wheeling the generated power through its transmission and distribution system as per the terms under point 5 above.	
7	Banking	Allowed for a period of one year	Not allowed		
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Grid interfacing required to connect the generating units to be established / constructed and maintained by the Developers at their own cost. Developer to lay its own transmissions lines and associated switchgear from the switchyard of its generation facility to the Electricity Department, A&N Admn./ Licensees grid sub-station at its own cost. Developer to install 2 separate meters 1 for export of power to the grid and other for import of power from the grid which would be sealed by A&N Admn./ Licensees. 	Developer to bear entire cost for interconnection to Grid.	<ul style="list-style-type: none"> Developer to necessarily offer 25% of the power generated, to Distribution Licensee except in case of captive projects. If Developer proposes to sell full or part of its generation to the grid or use the grid for wheeling power to third parties the developer will design the system at their own cost Capital cost of the transmission be borne by BSEB, provided the developer offers to supply at least 50% generation, subject to a minimum of 2MW 	Through CSEB CSERC tariff

9	Incentives and General	<ul style="list-style-type: none"> As on now a 10KW wind solar hybrid system is being installed as demonstration project. Complete project support and facilitation services including administrative support for obtaining statutory clearance, financial and technical assistance to pvt. promoters. A&N Administration to charges facilitation services charges @ 0.1% of project cost as per DPR. Developers can avail CDM benefits. Producers entitled to all the available incentives as provided by the MNRE, Gol and A&N from time to time. Tax incentives as declared by Govt. of India and A&N Administration from time to time shall be applicable. To accelerate development of NRSE projects, a Single Window Clearance Mechanism shall be established. 	Developer to share Carbon Credits with DISCOMS in the ratio of 90% and 10%	<ul style="list-style-type: none"> Generated electricity exempted from Electricity Duty. No Entry Tax on the New & Renewable Energy Sources devices, equipment and or machinery. Provisions of section 14 of the Electricity Act 2003 in respect of rural areas to be applicable. All projects entitled to avail the facilities available under Industrial Incentive Policy and such other policies of state govt. Loans available as per central/ Bihar state government or agencies. Project is entitled to all the applicable benefits under central/ state policies. 	From date of publication in the Gazette till revised.
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Sl. No	Name of State/ Description	Andaman & Nicobar Island (From RE policy of state)	Andhra Pradesh (From RE policy of state)	Bihar (From RE policy of state)	Chhattisgarh (From RE policy of state)
		<ul style="list-style-type: none"> All necessary and applicable clearances required for the project shall be considered in a time bound manner (within 60 days from the date of submission of complete application along with requisite fee. Exempted from electricity duty 			

COMBINED SUMMARY OF STATE POLICIES FOR WIND POWER PROJECTS

Sl. No	Name of State/ Description	Gujarat	Haryana (From RE policy of state)	Karnataka (From RE policy of State)	Kerala (From RE policy of state)
1	Order Date	WindPowerPolicy-2013, Resolution No. G.R. No. EDA-102001-3054-B dated 25th July, 2013	Govt. of Haryana Policy for Generation of Electricity through, Renewable Energy Dept. Dated 23-11-2005, Amendments dated 19th June 2008 and 29th March, 2010	Karnataka Renewable Energy Policy 2009-14 vide No. EN 354 NCE 2008 BANGALORE, DATED 19th JANUARY, 2010 AMENDMENT ORDER NO: EN 76 EMC-2/2010 DATED 06.05.2010	GO (MS) No.7/2007/ PD dated 11-05-2007 & Amendment GO (Rt.) No. 295/08/PD dated 22.11.2008
2	Eligible Producer	Any company or body corporate or association of body of individuals, whether incorporated or not, or artificial juridical person for setting up WTGs, either for the purpose of captive use and / or for selling of electricity in accordance with EA-2003 as amended from time to time.	Companies, Cooperatives, Partnerships, Local Self Governments, State Nodal Agency, Boards & Corporations, Power utilities, Private developers, Public - Private Partnership Companies, Consortia, Registered Societies, NGOs, individuals etc.	<ul style="list-style-type: none"> Identified windy sites to be offered by KREDL on Public Private Participation/ (BOOT) basis. KPCL to be considered for allotment of wind power projects above 500 MW 	Any individual, Company, Body corporate, Partnership firm, Joint venture- whether incorporated or not, Artificial juridical person / Captive generating plant owner

3	Land Allotment	<ul style="list-style-type: none"> • WTGs may be set up on private land, or revenue waste land/ GEDA land if available. • Allotment of GEDA land on lease to be done upon approval of coordination committee with ACS/ PS/Secretary (EPD) as Chairman. 	<ul style="list-style-type: none"> • State Govt, to acquire land if necessary at the cost of Independent Power Producers (IPP) if a request to that effect is made. • Setting up of RE Projects in the state to be permitted by the Town & Country Planning Department without levying of change of land use charges, external development charges, scrutiny fee and infrastructure development charges 	<ul style="list-style-type: none"> • Government to provide land for development of Projects under Land Revenue Act to KREDL • Amendments to be made in Act to enable the developers to purchase private land directly from owners. • 10% barren Government lands reserved for industrial use at declared RE sites will be given to KREDL for developing the land for projects • Forest land identified for RE projects to be processed within a period of 4 months • Identified revenue, private and forest land to be developed by KREDL. • KREDL will sub-lease the developed land to developer for 30 years. Thereafter, the project will be renewed for a period of 5 years at a time after the lease period subject to fulfillment of conditions • Land-Lease rent will be as per the prime lending rate over current market price on the date of handing over the projects 	
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Sl. No	Name of State/ Description	Gujarat	Haryana (From RE policy of state)	Karnataka (From RE policy of State)	Kerala (From RE policy of state)
4	Operative Period	Policy to come into force w.e.f. the date of issue of this resolution and shall remain in operation up to 31st March, 2016.	From the date of notification till a new policy is notified	Valid for 5 years up to 2014	
5	Sale of Power and Tariff	<ul style="list-style-type: none"> Electricity generated from 8th August, 2012 to be sold at rate of Rs.4.15/unit. The requisite PPA to be done between the Power Procurer and the eligible unit. GUVNL/ Distribution licensee may purchase surplus power from WTGs wheeling power for their captive use after adjustment of energy against consumption at recipient unit(s) @ 85% of tariff applicable to WTGs (commissioned during the Control Period of hon'ble GERC's Wind tariff order.) WTGs opting for captive use of energy generated, eligible to get set off against the energy during peak and normal hours as per GERC's tariff order. 	Licensees/ Utilities to purchase electricity from new projects set up after the notification of the present policy at the rate to be decided by the HERC.	It is obligatory to sell the electricity generated to the respective geographical ESCOMs in which the project is located, at the Tariff determined by KERC.	To other buyers if KSEB/ Successor entities refuse

		<ul style="list-style-type: none"> WTG under captive use eligible for one-month banking for electricity generated during the same calendar month. 			
6	Wheeling	<p>For Captive Consumption</p> <ul style="list-style-type: none"> To consumption site at 66KV& above Allowed within State with transmission charges and transmission losses applicable to normal Open Access Customer. To consumption site below 66 kV Allowed with payment of transmission charges and transmission losses otherwise applicable to normal Open Access Consumer and transmission and wheeling losses @ 10% of the energy fed to the grid. Above losses to be shared between Transmission & Distribution licensees in the ratio of 4:6. Provision applicable to generators having more than one WTGs. 	<ul style="list-style-type: none"> Licensees / Utilities to transmit, on its grid, the power generated and make it available to the producer for captive use or for Third Party within the State as per approved tariff / surcharge, notified by HERC If H.T./ L.T. lines are required to be laid beyond Licensee/ Utilities lines for wheeling the power, then the cost of the same to be borne by the promoter/ power producer. 	<ul style="list-style-type: none"> 5% to be applicable subject to KERC Norms. All transactions between KPTCL / ESCOMS / Distribution Licensee and the developer involving wheeling or sale of power to be settled on monthly basis KPTCL/Distribution licensees to pay interest on payment delayed beyond a month @ SBI short term PLR for delayed amount for actual period of delay 	

Sl. No	Name of State/ Description	Gujarat	Haryana (From RE policy of state)	Karnataka (From RE policy of State)	Kerala (From RE policy of state)
		<ul style="list-style-type: none"> Investors with one WTG in the state wheeling shall be allowed on payment of transmission charges, otherwise applicable to normal Open Access Consumer and transmission and wheeling losses @ 7% of the energy fed to the grid. Above losses to be shared between T & D licensees in the ratio of 4:3. <p>For Third Party Sale</p> <ul style="list-style-type: none"> Projects availing access for third party sale to pay open access charges and losses as applicable to normal open access consumers. <p>Wheeling at Multiple Locations:-</p> <ul style="list-style-type: none"> Wheeling to more than two locations @ 5 paise per unit for energy fed into the grid to be paid to concerned distribution company in whose area, power is consumed in addition 			

		to the above-mentioned transmission charges and losses, as applicable.			
7	Banking	<ul style="list-style-type: none"> WTG under captive use eligible for one-month banking for electricity generated during the same calendar month. Banking facility shall not be available for third party sale of energy. 	<ul style="list-style-type: none"> To be allowed by HVPNL/ DHBVN/ UHBVN/ for a period of one year, free of cost. If the banked energy is not utilised within a period of twelve months from the date of power banked, it will automatically lapse and no charges shall be paid in lieu of such power Withdrawal of banked power to be allowed only during non-peak hours. 	Allowed for energy banked with KPTCL/ Distribution licensee	
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Evacuation facility from wind farm substation to GETCO substation within the range of 100 km to be erected by the developer at their own cost Beyond this limit GETCO to erect the evacuation facility. Evacuation to be at 66 kV and above voltage level. 	<ul style="list-style-type: none"> Interfacing, from the point of generation to HVPN, UHBVN, DHBVN and any other licensee's nearest LT/HT lines etc. as well as maintenance of LT lines will be as per orders of HERC/CERC/ Appellate Tribunal for Electricity on Renewable Energy Tariff and other issues as modified from time to time. 	KPTCL /KREDL to provide transmission lines and developers to bear the cost of lines from the project site to the sub-stations as per grid norms	Developer to construct & maintain Evacuation facilities at their own cost

Sl. No	Name of State/ Description	Gujarat	Haryana (From RE policy of state)	Karnataka (From RE policy of State)	Kerala (From RE policy of state)
			<ul style="list-style-type: none"> Utility to carry out the augmentation of T&D system of substation capacity at 33/11 kV or higher capacity, if required, at the cost of power producers. 		
9	Incentives and General	<ul style="list-style-type: none"> Exempted from Electricity Duty. Wheeling of wind energy for Third Party Sale and captive use exempted from Cross Subsidy Charges. Set off of wheeled energy at recipient unit(s) shall be carried out in the same 15 minute time block. CDM benefits available. Wind Turbine Generators (WTGs) installed and commissioned during the operative period shall be eligible for the incentives for a period of 25 years from Date of Commissioning or the life span of the WTGs, whichever is earlier. 	<ul style="list-style-type: none"> Wind Monitoring Stations being setup in Panchkula, Gurgaon and Mahendgarh Districts to assess the potential. All new projects to be treated as "Industry" in terms of Industrial Policy, 2005 and all the incentives available to new projects to be applicable. Electricity duty is exempted. PPA to be minimum for 20 years or more. Local Area Development Tax exempted on plant, machinery, equipment that has been capitalized as per provisions of section 5(f) of Haryana Act No. 13 of 2000. 	<ul style="list-style-type: none"> Generation of electricity from RE sources to be treated as industry under provisions of Industrial policy 2009 and incentives available to industrial units to be extended to RE projects KREDL will facilitate to avail CDM benefits for RE projects State Government is committed to procure RE power subject to KERC guidelines and reserves the first right of refusal or purchase of power 50% of the installed capacity assigned for captive use to be allowed. Various Statuary Clearances RE projects will be dealt by KREDL with concerned department and agencies. 	<ul style="list-style-type: none"> Benefits of Carbon Credit, to be shared equally between STU/ buyer and investor Reactive power charges as per KSERC Taxes, duties and other levies of Central / State Government as per rules.

		<ul style="list-style-type: none"> • Only WTGs which are approved either by MNRE, Gol, or by recognized international test house, to be eligible for installation. • Second hand WTGs are not eligible for installation. 		<ul style="list-style-type: none"> • A committee under Chairmanship of Principal Secretary, Energy Department will consider for allotment of capacity of the RE projects to the private entrepreneurs • A state level empowered committee under the Chairmanship of Chief Secretary, Govt. of Karnataka to provide single window clearance to projects which are not accorded clearances/ approvals within the specified time period • It is mandatory for the developer to commission the project with grid synchronization within a period of 3 years from the date of statutory clearance • Incentives allowed by MNRE/ Government of India regarding detailed survey and investigation/DPR, generation based incentive etc. to be passed on to the developer through KREDL • ESCOMs to extend facility of LC to the developer for realizing payment in scheduled period for power sold to ESCOMs. 	
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COMBINED SUMMARY OF STATE POLICIES FOR WIND POWER PROJECTS

Sl. No	Name of State/ Description	Madhya Pradesh	Maharashtra (From RE policy of State)	Manipur (From RE policy of State)	Meghalaya (From RE policy of State)
1	Order Date	Wind Power Project Policy, 2012, Notified in Gazette in Hindi vide notification 44 dated 30th January, 2012 and 80 dated 21st February, 2013	New Policy for Power Generation from non-conventional source of energy vide Government Resolution (i) No.APAU(NCE)2007/ Pra. Kra.693/ Urja-7 dated 14th October 2008 (ii) Amendment dated 03-08-2009	Policy on renewable sources for promoting generation of additional power through nonconventional sources vide No.1/1/2005- S & (Misc) dated 12-09-2006.	Policy for Promoting Generation of Power through non-conventional Energy sources
2	Eligible Producer	Any individual/firm/society/ organization/registered company		<ul style="list-style-type: none"> All Power producers generating Grid-grade electricity with installed capacity not exceeding 25 MW. Producers generating electricity for captive consumption. Companies, Co-operative, partnerships, Village Development Board/ Village Authorities, individuals etc. 	<ul style="list-style-type: none"> Power producing entrepreneur. Companies, cooperative, partnership individuals etc. All power producers generating grid-grade electricity with installed capacity between 10 kW and 25 MW. For captive consumption.
3	Land Allotment	<ul style="list-style-type: none"> In case of availability of Govt. Land for the project, permission to use the land to be provided for establishing aero-generator on the basis of foot prints, approach road upto the aero-generator, 	The barren land meant for industrial use on lease for 30 years.		

		<p>transmission lines, substation and other affiliated uses on the basis of actual use of land for the project.</p> <ul style="list-style-type: none"> Terms and conditions laid down by revenue department, GoMP circular no. F-16-14/2013/Seven/ Gov.2A dated 30.05.2013 shall be applicable for permission to use the Govt. revenue land. Land owned by ST may be available only under exceptional circumstances and with mutual consent. 			
4	Operative Period	From the date of notification in MP Gazette		From the date of publication till superseded or modified	
5	Sale of Power and Tariff	<ul style="list-style-type: none"> IPP can sell the entire power generated at the rates decided by MPERC. Surplus Power of CPP may be sold to any consumer/ Distribution companies/ Power trading Co. (PTC) M.P. Power Trading Company to have the first right of purchase of electricity generated from the project installed entirely or partly on Govt. Land. 	It shall be binding on Developers to sell 100% of electricity generated to Licensee or Client in the State.	<ul style="list-style-type: none"> Power Department to purchase electricity at a minimum rate of Rs.2.25/- per unit to be increased every year for 10 operational years. Thereafter the rate of increase to be mutually settled between Power Deptt. and developer. PPA for 20 years unless Developer wants shorter period 	DISCOM to purchase electricity at SERC rate & on mutually accepted terms and conditions

Sl. No	Name of State/ Description	Madhya Pradesh	Maharashtra (From RE policy of State)	Manipur (From RE policy of State)	Meghalaya (From RE policy of State)
		<ul style="list-style-type: none"> Tariff determined by transparent bidding process as per guidelines issued by Central Govt. Developer may sell power generated in accordance with REC mechanism. 			
6	Wheeling	<ul style="list-style-type: none"> For power consumption for self-use / sale of power to third party, MPPTCL or related Discom shall facilitate wheeling of power at the rates prescribed by MPERC. Developer to sign the wheeling agreement with MPTCL / related Discom. In case of power consumption for self-use / sale of power to third party, MPPTCL or related Discom shall facilitate wheeling of power at the rates prescribed by MPERC. In case of power sale to third party within the state, the related Discom shall avail wheeling grant at the rate of 4% from the state govt. 		<ul style="list-style-type: none"> Department to transmit on its grid the power generated by producer and make it available to him for captive use or to a third party for sale within the State, at a uniform wheeling charge of 2% of the energy fed to the grid, Third party to be a HT consumer of power. 	<ul style="list-style-type: none"> STU to transmit on its grid the power for captive use of developer or to a third party for sale within the state, at an applicable wheeling charge. Third party to be HT consumer unless condition relaxed by DISCOM.

7	Banking	<ul style="list-style-type: none"> Allowed 100% of energy Developer to pay 2% of the Banked energy to concerned State Distribution company/ State Power Trading Company. Return of the banked energy will be as per regulations issued by MPERC. 		Allowed up to 1 year	
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Interfacing arrangements including the associated switchgear at the generating station and upto the receiving point, shall be the responsibility of the Developer. Developer to fulfill the technical and safety norms in accordance with the MP Grid Code/ MP Electricity Supply Code 2004/ MPERC Regulations. MPPTCL / Discom may take up the work and maintain the same on cost basis. Evacuation of power generated from projects upto 15MW capacity shall be carried out on 33KV lines to the nearest 33/11KV substation. 	<ul style="list-style-type: none"> Developers to install the power evacuation facilities including modification from project site to HV / EHV substation including transmission lines After commissioning, evacuation arrangement to be transferred to MSETC / MSEDCL with ownership and maintenance work 50% of the approved expenses on evacuation arrangement to be reimbursed to Developer as subsidy from Green Energy Fund 	<ul style="list-style-type: none"> Developer to bear cost for evacuation facilities & interfacing up to the nearest HT lines as well as for Mtc. Alternatively, these works and their maintenance could be undertaken by the Power department at charges to be decided by the Department Cost of augmentation of sub station capacity at 33/11 kV or higher & transmission lines to be borne by the Department. 	<ul style="list-style-type: none"> Developer to bear cost for evacuation facilities & interfacing up to the nearest HT lines as well as for Maintenance. Alternatively, these works and their maintenance could be undertaken by the DISCOM at charges to be decided by the DISCOM/ SERC

Sl. No	Name of State/ Description	Madhya Pradesh	Maharashtra (From RE policy of State)	Manipur (From RE policy of State)	Meghalaya (From RE policy of State)
9	Incentives and General	<ul style="list-style-type: none"> No energy cess shall be payable on the power supply by wind power projects. Projects eligible all incentives under "Industrial Promotion Policy of State Govt." Industrial consumers opting to buy energy from wind power projects to be provided facility of corresponding reduction in contract demand on permanent basis. Decision of MPERC shall be final in this regard. For captive consumption and third party sale all projects shall be exempted from electricity duty for a period of 10 years. Carbon credits available to the developer as per guidelines issued by MPERC. Exemption from VAT / Entry Tax for wind power plants shall be available in accordance with MP Govt. Gazette (extraordinary) 	<ul style="list-style-type: none"> MSEDCL to pay through Letter of Credit (LC) to the Developer Cost of opening of LC to be reimbursed from Green Energy Fund (GEF) by MEDA as 100% subsidy 100% refund of Octroi Tax/ Entry Tax for equipment to be made through GEF Promoters/ developers/ investors who do not wish to obtain facilities - concessions under this policy, need not take infrastructure clearance from the Government No Electricity duty for first 10 years from COD for captive use/third party sale 	<ul style="list-style-type: none"> All transactions involving wheeling, banking or sale of power to be settled on monthly basis Exemption from electricity duty for 5 years from COD for captive use or third party sale. Producers to be treated as industrial units and similar incentives available to them Concessions given to Industrial units in backward areas to be provided Infrastructural facilities to be on the lines of industrial units if plant is set up in industrial area developed by State Govt. GoI Incentives Exemption of tax on RE devices and spare parts. Sale Tax exempted MANIREDA to facilitate grant of loans by IREDA & MNRE & accord of clearances for execution 	<ul style="list-style-type: none"> Infrastructural facilities to be on the lines of industrial units if plant is set up in industrial area developed by State Govt. Exemption from electricity duty for 5 years from COD for captive use or third party sale. Sales Tax/ VAT deferment / remission as applicable Meghalaya Non-Conventional and Rural Energy Development Agency (MNREDA), to facilitate clearances for the projects at the State and Central levels and grant of loans by Indian Renewable Energy Development Authority (IREDA) and subsidies by MNRE. Developer to submit applications for projects and grid interfacing to MNREDA and DISCOM. MNREDA/ State government to provide clearance within a period of 2 months from the date of submission of application

		notification no. 380 dt. 01.08.2009.		<ul style="list-style-type: none">If the applicant does not take effective steps (i.e at least 10% of the total project cost not incurred within six months) to implement the project, the agreement to be terminated and site allotted to another applicant	
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COMBINED SUMMARY OF STATE POLICIES FOR WIND POWER PROJECTS

Sl. No	Name of State/ Description	Mizoram (From RE policy of State)	Odisha (From RE policy of State)	Punjab (From RE policy of State)	Rajasthan
1	Order Date	Power Policy for Power through non-conventional Energy Sources	Govt. of Odisha policy guidelines on power generation from non-conventional energy sources vide No. 6971/ ST, Bhubaneswar, ST- IV-RE-13/ 2005, dated 3-12-2005	New & Renewable Source of Energy (NRSE) Policy vide No.10/174/2012/STE(3)4725 dated 26 Dec, 2012. Policy to replace and supersede the previous policy i.e. New and Renewable Source of Energy (NRSE) Policy 2006, notified vide no.10/106/2006-STE(1) 5390 dt 24/11/2006	<ul style="list-style-type: none"> Policy for Electricity Generation from Wind Energy – 2012 Energy Deptt. letter No.F.20(3) Energy/98/ Pt.III dated 30.4.2003. Amendment order No. F 20(4) Energy/2011 Dated 18/7/2012. F20(4) Energy/2011 Dated 6/3/2013 F20(4) Energy/2011 dated 4/3/2014
2	Eligible Producer	<ul style="list-style-type: none"> Companies, cooperative, partnerships, individuals, charitable societies, Non-Governmental Organizations, etc. Producers generating 10 kW to 25 MW of grid-grade Electricity Producers in the joint-sector, formed by Government agencies and the producers. For captive consumption. 	Any Public Sector, Private Entrepreneur, Registered NGOs, Cooperatives, Consortia etc.	<ul style="list-style-type: none"> Persons generating electricity from non-covenantal energy sources No restriction on generation capacity or supply of electricity to State grid Important: Wind power potential is low in the state as the necessary speed is not there. State will support programmes to set up innovative technology based wind turbines. 	

3	Land Allotment	Land lease not exceeding 99 years,	Government land if available	<ul style="list-style-type: none"> If the land belongs to local bodies/gram panchayat, the state would encourage them to provide the land for RE projects. 	<ul style="list-style-type: none"> RREC to take all necessary actions for allotting sites to developers, in accordance with procedure approved by Rajasthan Land Revenue Rules 2007, as amended from time to time. Government Land will be allotted at a concessional rate of 10% of the DLC rate. Maximum land available to the developer for setting up of project is 5hect/MW with a security deposit of INR 1lakh/MW. Sublease is permissible with permission from Collector on recommendation of RREC before / after commissioning of WTG Private Land can be purchased from the Khatedar as per Ceiling Act 1973. 10% conversion charge from private to industrial land has to be paid by the developer. RREC will recommend the case of land allotment to concerned District Collector only on submission of cash security deposit.
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Sl. No	Name of State/ Description	Mizoram (From RE policy of State)	Odisha (From RE policy of State)	Punjab (From RE policy of State)	Rajasthan
					<p>of Rs. 1.00 Lac/MW by Demand Draft in favour of RRECL, Jaipur. The security deposit will be refunded on successful completion of the project. The security deposit will be forfeited in case allotment of land is cancelled as per provision of the policy.</p> <ul style="list-style-type: none"> land proposed for setting up Wind Generation Projects which is categorized as forest land in light of the judgment of Hon'ble Supreme Court in Writ Petition (Civil) No. 202/95 dated 12.12.1996, the developer will be required to seek diversion of forest land under the general guidelines issued by MoEF, Govt's letter No. F. No. 8-84/2002-FC dated 14.5.2004 and amendments issued from time to time.
4	Operative Period	From the date of publication till superseded or modified	With immediate effect for 10 years	From date of Notification in the official gazette till Govt. issues New Policy	Policy will come into operation with effect from 18.07.2012 and will remain in force until superseded or modified by another Policy.

5	Sale of Power and Tariff	<ul style="list-style-type: none"> • Department to purchase electricity at a minimum rate of Rs. 3.50/unit applicable for the year 2002-03 with escalation of 5% every year for 10 operational years. • Thereafter the rate of increase to be mutually settled between Department and the Producer. • It shall not be compulsory for power producer to sell power to Department • Developers with concurrence of the Department may sell the electricity to a third party within and outside the State, at a rate to be mutually settled between them. • PPA for minimum period of 10 years unless Developer wants for shorter period 	<ul style="list-style-type: none"> • To bulk suppliers/ distribution licensee on basis of PPA with the approval of OERC • Energy not utilized during the year for captive use to be treated as sold to GRIDCO/ DISTCO. 	<ul style="list-style-type: none"> • As per PSERC RE tariff orders and shall be governed by RE regulations. • Preferential tariff of sale of power to PSPCL/ Licensee to be notified by PSERC for the financial year in which PPA is signed. • Projects allotted through tariff based competitive bidding / discount on professional tariff, the tariff arrived after competitive bidding / discounted tariff to be applicable in accordance with CERC RE Regulations. 	<ul style="list-style-type: none"> • Rajasthan State will promote wind power plants of unlimited capacity for captive use or sale to third party located within and outside the State of Rajasthan at mutually agreed rates between the parties. • Utility grid power projects for sale through RE (Non-Solar) certificate mechanism. • Power Producers to set up Wind Power Plants of unlimited capacity for sale through RE (Non-Solar) Certificate Mechanism. • Power generated from these power projects shall be purchased by DISCOMs of Rajasthan at Pooled Cost of Power Purchase determined by the Commission from time to time. • Power Producers to apply for accreditation to the State Agency and thereafter to Central Agency for registration and issuance of RE (Non-Solar) Certificate under REC mechanism as per order/ regulations of
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Sl. No	Name of State/ Description	Mizoram (From RE policy of State)	Odisha (From RE policy of State)	Punjab (From RE policy of State)	Rajasthan
					<p>appropriate Commission issued in this regard.</p> <ul style="list-style-type: none"> Discoms of Rajasthan to purchase wind power upto the extent of RPO prescribed by RERC In case of shortfall Discoms to fulfill the shortfall in RPO by acquiring REC(Non Solar) certificate
6	Wheeling	<ul style="list-style-type: none"> Department to transmit on its grid the power generated and make it available to him for captive use or to a third party nominated by eligible producer for sale within the State, at a uniform wheeling charge of 2% of the energy supplied to the grid. Third party to be HT consumer unless condition relaxed by DISCOM 	<ul style="list-style-type: none"> Allowed, subject to payment of transmission / distribution and wheeling charges both for captive use and sale outside the State as approved by OERC Developer may supply energy to any one area not served by the Licensee. 	<ul style="list-style-type: none"> 2% of the energy fed to the grid or as amended from time to time by PSERC. Wheeling/transmission of power to be governed by Open Access Regulations. 	<ul style="list-style-type: none"> The account of all transactions between the power producer and DISCOM / RVPN regarding price of power and wheeling charges to be settled on monthly basis. Developer/power producer shall execute a wheeling and banking agreement with DISCOM(s). In case transmission system of RVPN is also used then Power Producer and Developer will execute separate Wheeling Agreement with RVPN.

7	Banking	Allowed up to 1year	<ul style="list-style-type: none"> Allowed on annual basis. Banking charges - 2.5% of energy dispatched 	Allowed for 1 year. However, energy bank during non-paddy season and non-peak hours will not be allowed to be drawn during paddy season and peak hours respectively.	For wind power plants for captive use / third party sale Developer / Power Producer shall execute a wheeling and Banking Agreement with DISCOM(s)
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Developer to bear cost for evacuation facilities & interfacing up to the nearest HT lines as well as for Maintenance Alternatively, the above works and their maintenance could be undertaken by the Department at charges to be decided by the Department and the producer on mutual agreement. Cost of augmentation of sub-station capacity at 33/11 kV or higher & transmission lines to be borne by the Department. 	<ul style="list-style-type: none"> Grid interfacing with the generating units to be constructed by the developer at their own cost. Scheme for inter connection to the nearest substation to be approved by GRIDCO/ DISTCO and shall form the part of DPR. 	<ul style="list-style-type: none"> Interfacing including installation of substation and meeting equipment on the LT/HT site of the generating station upto the interconnection point and its subsequent maintenance to be undertaken by Power Producer/Plant owner. For sale of power to PSPCL/ Licensee, Transmission link and associated switchgear and ABT complaint check meters to be provided by PSPCL/ Licensees For other cases developer to lay the transmission lines and associated switchgear required for evacuation of power, from the generating station to PSPCL/ Licensee/ PSTCL grid substation at its own cost. 	<ul style="list-style-type: none"> Developer to undertake and bear the entire cost of grid interfacing facilities plus maintenance cost. Grid connectivity / construction of line to be arranged by RVPN/ DISCOMs. In case, Developer / Power Producer first connects his feeder to DISCOM's sub-station, but later on desires to connect his feeder to RVPN's sub-station, then subject to feasibility, additional line shall be constructed by Developer/ Power Producer and additional line bay at the grid substation shall be constructed by RVPN as deposit work of Developer/Power Producer.

Sl. No	Name of State/ Description	Mizoram (From RE policy of State)	Odisha (From RE policy of State)	Punjab (From RE policy of State)	Rajasthan
				<ul style="list-style-type: none"> PSPCL/PSTCL/Licensee to provide jumpers at interconnection point as applicable in Regulation / Tariff order. 	<ul style="list-style-type: none"> RVPN/DISCOM shall provide the inter-connection facility one month before scheduled COD as intimated by the Developer subject to condition that the grid connectivity charges are deposited by the Developer/ Power Producer and sufficient time is available with RVPN/ DISCOM for creating the interconnection facility. For grid connected plants commissioned for sale of power to Discoms, captive use/ third party sale, power evacuation line from pooling substation to receiving substation to be laid as per provisions of RERC. For plants selected through competitive bidding process, line to be laid as per provision of Bid document and PPA

9	Incentives and General	<ul style="list-style-type: none"> Exemption from electricity duty for captive use or third party sale Infrastructural facilities to be on the lines of industrial units if plant is set up in industrial area developed by State Govt. Producers to be treated as industrial units and similar incentives available to them Concessions given to Industrial units in backward areas to be provided State Government to extend all incentives and facilities granted by the Central Government for similar Undertaking in other States. Equipments and materials exempted from State sales tax All transactions involving wheeling, banking or sale of power to be settled on a monthly basis 	<ul style="list-style-type: none"> Exempted from electricity duty No transmission charges for CPP or NRSE maintenance for a period for 5 years from COD In the event of project work not started within a year of approval of PPA, the MOU and PPA will automatically stand cancelled. 	<ul style="list-style-type: none"> Allotment of Projects through competitive bidding by PEDDA Generation and consumption by generators themselves fully exempted from Electricity duty 100% Electricity duty waiver for power consumed from state licensee during construction and testing of the project Exemption from VAT and any cess thereon 100% exemption from entry tax in respect of all supplies (including capital goods, structure and raw material) for setting up and trial operation of the project. 100% exemption from payment of fee and stamp duty for registration/lease deed charges for land required for the project. Octroi on energy generation and equipment/machinery for RE power projects exempted 	<ul style="list-style-type: none"> The energy consumed by the Power Producer for his own captive use will be exempted from payment of electricity duty. State to promote setting up of wind power plants for direct sale to DISCOMs of Rajasthan from 2013- 14 to 2015- 16 on preferential tariff determined by RERC upto extent of RPO of that financial year DISCOMs of Rajasthan will purchase the wind power to the extent of Renewable Energy Purchase Obligations prescribed by RERC. Wind Power plants setup for the years 2013-14 onwards will execute Power purchase / Power sale agreement with the DISCOMs as per the provision of bid document. For project registration, Developer/Power Producer to submit the application to RREC in prescribed Performa of the Policy along with the required documents
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Sl. No	Name of State/ Description	Mizoram (From RE policy of State)	Odisha (From RE policy of State)	Punjab (From RE policy of State)	Rajasthan
		<ul style="list-style-type: none"> Reduction in contract demand up to 30% of installed capacity permitted, in case power plant is not utilizing Department's Grid for supply of power to the consumer 		<ul style="list-style-type: none"> All projects developed under this policy to be treated as industry in terms of Industry policy of the state and all the incentives available to new industrial projects to be applicable to the Projects. Developer to submit a performance security in the shape of bank guarantee of Rs.20.00 Lakhs per MW before signing of IA or as stipulated in the bid document. Developers allowed inter/ Intra state open access as per Open Access Regulations.. 	<p>and demand draft for non refundable processing fees @ Rs.50000 per MW + Service Tax.</p> <ul style="list-style-type: none"> Developer to deposit with RREC a security amount of Rs.5.0 Lac per MW by demand draft within two months from the date of issue of in principal clearance. Security amount to be forfeited in the event of failure to adhere to the stipulated schedule of COD/ extension. For plants selected through competitive bidding process, Security Deposit to be governed as per provision of Bid document and PPA In- principle clearance to the projects to be granted by State Level Screening Committee(SLSC)

COMBINED SUMMARY OF STATE POLICIES FOR WIND POWER PROJECTS

Sl. No	Name of State/ Description	Tamilnadu (From RE policy of State)	Uttarakhand	West Bengal (From RE policy of State)
1	Order Date	Wind Energy	Policy for Promoting Generation of Electricity through Renewable Energy Sources with Private Sector as Community Participation vide No.263/I(2)/2008-04(8)-96/ 2001 29th dated Jan, 2008	Policy on Co-generation and Generation of Electricity from Renewable Sources of Energy vide Notification Dated: 5th June, 2012
2	Eligible Producer			
3	Land Allotment			<ul style="list-style-type: none"> Government land to be given for 30 years or project life whichever is less through WBGEDCL. For private land, developer to arrange the entire land through direct purchase. allotment of land, if any, shall stand cancelled if the power project is not started within the time frame
4	Operative Period			
5	Sale of Power and Tariff	Reasonable power tariff	<ul style="list-style-type: none"> UPCL to have first right of purchase of electricity UERC to determine price of electricity State Government to provide guarantee for payments to be made by UPCL for purchase of power 	All power to be sold preferably to the distribution licensee within the state.

Sl. No	Name of State/ Description	Tamilnadu (From RE policy of State)	Uttarakhand	West Bengal (From RE policy of State)
6	Wheeling	Concessional wheeling charges @5% for captive use	<ul style="list-style-type: none"> UPCL/PTCUL to transmit the power generated through its grid for captive use or third party sale within/ outside the state Wheeling charges to be announced in advance 	All transactions between WBSETC/ Distribution Licensee and the developer involving wheeling or sale of power will be settled on a monthly basis as per PPA and transmission service agreement executed.
7	Banking	Allowed subject to 5% charges in a financial year	Allowed at mutually agreed terms	
8	Power Evacuation and Grid Interfacing	Power evacuation arrangements to be provided by Developer.	T&D lines from generation site to be provided by UPCL/ PTCUL	<ul style="list-style-type: none"> The inter-connection point of the renewable energy generation facility with the transmission & distribution system will be as per regulations of the commission. WBSEDCL and the distribution licensee to jointly create evacuation infrastructure for RE projects i.e. pooling stations The evacuation infrastructure cost beyond the inter-connection point to be borne by the licensees which is to be recovered from consumers as per suitable pricing framework developed by WBERC. Interfacing equipment and associated switchgear as well as their maintenance to be undertaken by developers at their own cost.

9	Incentives and General	<p>A. MNRE, Govt. of India</p> <ul style="list-style-type: none"> Accelerated depreciation up to 80% for income tax calculations subject to a minimum utilisation for 6 months in the year in which deduction is claimed. Import of wind electric generator permitted under Open General License. Customer duty concessions on wind electric generators and certain essential spares. Tax holiday for 10 years <p>B. Govt. of Tamilnadu</p> <p>To buy surplus energy at Rs. 2.75 per unit from the wind mills commissioned before 15.05.2006 and Rs 2.90 per unit commissioned after 15.05.2006</p>	<ul style="list-style-type: none"> CDM Benefits to be passed to the developers Not more than three projects in each category to be allotted to a developer Preference to industrial units located in State in the open competitive bidding process provided the bid is not less than 80% of the highest bid If developer does not restrict to the prescribed time schedule of completion of project, premium to be forfeited and allotment canceled Projects to be offered for 40 years from the date of award Application fee (Non refundable) - Rs. 5000/- Processing fee (Non-refundable) - For projects up to 1MW - Rs. 10,000/- and more than 1MW - Rs. 25,000/- Security Payment - For projects up to 1MW - Rs. 20,000/- and more than 1MW- Rs. 50,000/- Committee headed by Chief Secretary to accord approvals/ clearances through a single window mechanism. 	<ul style="list-style-type: none"> Exemption of demand cut to the extent of 50% of the installed capacity assigned for captive use purpose will be allowed subject to the Regulations of the Commission The host and obligated distribution utilities shall provide revolving Letter of Credit from a nationalized bank as a payment security mechanism for all RE projects Developer/Government acquiring land to provide an amount not exceeding one percent (1%) of the project cost for the rehabilitation and resettlement of the persons displaced from the project area. In case of RE project construction in very remote areas, some infrastructural support including approach roads to the project site may be provided at Government cost. Concession and incentives allowed by the Ministry of New and Renewable Energy/Government of India to be passed on by the State Government to the project developer through the designated Nodal Agency. All risks, costs and efforts associated with the availing of carbon credits to be borne by the producer and entire proceeds of carbon credit from approved CDM project, if any, to be retained by the generating company.
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COMBINED SUMMARY OF STATE POLICIES FOR SOLAR POWER

Sl. No	Name of State/ Description	Andaman and Nicobar Island (From RE policy of State)	Andhra Pradesh	Bihar (From RE policy of State)	Chhattisgarh
1	Order Date	Policy for power Generation through New and Renewable Energy Sources in Andaman and Nicobar Island- May 2012	Andhra Pradesh Solar Power Policy – 2012 vide order no. G.O. Ms. No. 39, Dt. 26-09-2012	Bihar Policy for promotion of New and Renewable Energy Sources 2011- Resolution vide Letter No. PRA-02 / BR EDA- APRA NITI- 11/08/2845 Dt.24/06/2011. This policy supersedes the previous policy i.e. "Policy for Private Sector Participation for Developing Non- Conventional Energy Sources", issued in 2003 and ended in 2008.	Chhattisgarh Solar Energy Policy 2012, issued by CREDA, Dept. of Energy Government of Chhattisgarh during 2012
2	Eligible Producer	Registered companies, Corporations and Co-operatives/registered societies, NGOs, local self-governments, partnerships and individuals.	All registered companies, Central and State power generation/ distribution companies and public / private sector solar power project developers will be eligible for setting up of Solar Power Projects, either for the purpose of captive use and/or for selling of electricity as per EA 2003.	Any Industry, Institution, Private Agency, Partnership Firm, Consortia, Panchayat Raj Institutions, Urban Local Bodies, Co-Operative or Registered Society.	<ul style="list-style-type: none"> Any Person, Registered company (s), Central and state power generation/ distribution companies and public/ private sector solar power project developers (Solar PV/ Solar thermal) and manufacturing units of equipment and ancillaries related to solar power projects shall be eligible for setting up of Solar Power Projects, either for the purpose of captive use and /or for selling of electricity, in accordance with the Electricity Act-2003, as amended from time to time.

3	Land Allotment	<ul style="list-style-type: none"> Developer to arrange land at his own cost. Govt. land, if available, would be charged on nominal monthly lease rent of Rs.1.00 only for the entire period of the project, subject to further renewal on mutually agreed terms and conditions. 	Project Developer will be responsible for acquiring the land required for the project.	<ul style="list-style-type: none"> Government land in an Industrial Area, if available and identified by the developer, may be leased in accordance with the applicable GoB policy The developer may purchase private land directly from the owners. Use of agriculture land may be allowed for non-agriculture purposes 	<ul style="list-style-type: none"> Acquisition of the land for the project is the responsibility of the developer. Government land will be made available to the project developer as per the prevailing state policy. Terms and Conditions of "State's model Rehabilitation and Resettlement policy" shall be applicable for acquisition of private land. All the statutory clearances/ approvals shall be obtained by the developer.
4	Operative Period	From the date of publication in official gazette and remain in force until 2017 or until modified or superseded.	The policy shall come into operation with effect from the date of issuance and shall remain applicable till 2017.	From the date of notification and will be valid for a period of 5 Years from date of notification	This policy will come into effect from the date of issuance and shall remain in operation up to 31st March 2017. Solar power plants approved, installed and commissioned during the period alone shall be eligible for benefits of this policy.
5	Sale of Power and Tariff	Power producers can use the power generated for captive consumption or for sale to other bulk consumers/ licensees including Electricity Department, A&N Administration.	Power generated from these projects shall be purchased by AP Discoms at pooled cost of PPA as determined by APERC from time to time.	<ul style="list-style-type: none"> Third-party sale or captive use permissible, using BSEB network on payment of BERC approved open-access charges. Third party, if any, must be an HT 	<ul style="list-style-type: none"> DISCOM(S) will fulfill its duty of meeting RPOs through a tariff based competitive bidding process.

Sl. No	Name of State/ Description	Andaman and Nicobar Island (From RE policy of State)	Andhra Pradesh	Bihar (From RE policy of State)	Chhattisgarh
				<p>consumer procuring at least 1 MW Sale of electricity.</p> <ul style="list-style-type: none"> Captive power developer may sell excess power to state grid/ BSES, if the power available is over 1 MW. 	<ul style="list-style-type: none"> For projects under REC mechanism, state utility will have the option to purchase Solar Power at pooled cost determined by the appropriate commission from time to time.
6	Wheeling	2% of the energy fed to the grid	<ul style="list-style-type: none"> Producer to bear the wheeling and transmission losses as per actual. Wheeling charges for sale outside the state will be as per APERC regulations. No wheeling and transmission charges for wheeling to the desired location/s for captive use/third party sale within the state through 33KV system subject to industries maintaining their demand within its contracted demand. 	BSEB to extend the facility of wheeling the generated power through its transmission and distribution system as per the terms under point 5 above	Wheeling charges as per CSERC regulations.
7	Banking	Allowed for a period of one year	<ul style="list-style-type: none"> 100% from January to December of that year No banking for energy produced being consumed on the same day. 		Energy banking facility will be allowed at mutually agreed terms

			<ul style="list-style-type: none"> Banked units cannot be consumed/ redeemed between February to June and also during peak hours i.e. 6.30 PM to 10.30 PM. Developer to pay 2% of the banked energy towards banking charges. Energy unutilized by December of that year gets lapsed. 		
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Grid interfacing required to connect the generating units to be established / constructed and maintained by the Developers at their own cost. Developer to lay its own transmissions lines and associated switchgear from the switchyard of its generation facility to the Electricity Department, A&N Admn./ Licensees grid sub-station at its own cost. 	<ul style="list-style-type: none"> Evacuation line from interconnection point to grid substation to be laid by the APTRANSCO or DISCOM at the cost of the project developer. If developer wishes to lay evacuation line by themselves, they can do so by paying the supervision charges to APTRANSCO/DISCOM. APTRANSCO/DISCOMs to ensure the technical feasibility for evacuation is granted within 21 days of applying. 	<ul style="list-style-type: none"> Developer to necessarily offer 25% of the power generated, to Distribution Licensee except in case of captive projects. If Developer proposes to sell full or part of its generation to the grid or use the grid for wheeling power to third parties, the developer will design the system at their own cost Capital cost of the transmission be borne by BSEB, provided the developer offers to supply at least 50% generation, subject to a minimum of 2MW 	<ul style="list-style-type: none"> Power generated from solar power project to be injected as per Grid code to the nearest sub-station of the Chhattisgarh Transco/ Distribution Licensee. Evacuation line from interconnection point to grid substation to be laid by the CG TRANSCO or DISCOM at the cost of the project developer. If the project developer wishes to lay evacuation line by themselves, they can do so without paying the supervision charges to CG Transco (CSPTCL) or DISCOM (CSPDCL). CG TRANSCO / DISCOMs to ensure the technical feasibility for evacuation which is granted within 21 days of applying.

Sl. No	Name of State/ Description	Andaman and Nicobar Island (From RE policy of State)	Andhra Pradesh	Bihar (From RE policy of State)	Chhattisgarh
9	Incentives and General	<ul style="list-style-type: none"> A&N Administration and NTPC sign an MoU for establishment of 6MW solar plant in A&N Islands. Complete project support and facilitation services including administrative support for obtaining statutory clearance, financial and technical assistance to pvt. promoters. A&N Administration to charges facilitation services charges @ 0.1% of project cost as per DPR. Developers can avail CDM benefits. Producers entitled to all the available incentives as provided by the MNRE, GoI and A&N from time to time. Tax incentives as declared by Govt. of India and A&N Administration from time to time shall be applicable. 	<ul style="list-style-type: none"> Incentives as under will be given to solar power Developers who commission their solar plant by June 2014. Wheeling as detailed at point 6 above. Cross subsidy charges not to be applicable for Open Access obtained for third party sale within the state subject to the industries maintaining their demand within its contracted demand with the DISCOMs and for captive use. Electricity duty to be exempted for captive consumption and third party sale within the state. VAT for all the inputs required for solar power projects to be refunded. Industries Department to provide incentive in terms of refund of Stamp Duty and Registration charges for land purchased for setting up solar power project. 	<ul style="list-style-type: none"> Generated electricity exempted from Electricity Duty. No Entry Tax on the New & Renewable Energy Sources devices, equipment and/or machinery. Provisions of section 14 of the Electricity Act 2003 in respect of rural areas to be applicable. All projects entitled to avail the facilities available under Industrial Incentive Policy and such other policies of state govt. Loans available as per central/Bihar state government or agencies. Project is entitled to all the applicable benefits under central/state policies. 	<ul style="list-style-type: none"> The state industrial policy 2009-14 has recognised non-conventional sources of power generations as a priority industry and offers a number of incentives to solar power generation plants which includes; interest subsidy fixed capital investment subsidy exemption from electricity duty exemption from stamp duty exemption/concession in land premium project report subsidy Technical patent subsidy. Additional Incentives - Following additional incentives will be extended to those solar power developers who would commission their solar plant by March 2017. These incentives will be in force for the period of 7 years

		<ul style="list-style-type: none"> To accelerate development of NRSE projects, a Single Window Clearance Mechanism shall be established. All necessary and applicable clearances required for the project shall be considered in a time bound (within 60 days from the date of submission of complete application along with requisite fee. Exempted from electricity duty 	<ul style="list-style-type: none"> All projects developed with the above incentives eligible for REC benefits. These incentives will be in force for a period of seven years from the date of implementation. Solar power developer will sell RE (Solar) certificates as per the regulations of APERC. No fossil fuel to be allowed to be used in a Solar Power Plant. Drawl of Reactive Power by the solar power plant shall be charged as decided by the APERC. 		<p>from the dated of implementation of the project</p> <ul style="list-style-type: none"> VAT exemption by the commercial tax department. Open Access is granted to any developer, they shall pay the applicable open access charges and losses as approved by CSERC. Cross Subsidy surcharges will not be applicable for open access obtained for third party sale within the state. All Grid connected solar project developed also eligible for REC benefits.
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COMBINED SUMMARY OF STATE POLICIES FOR SOLAR POWER

Sl. No	Name of State/ Description	Gujarat	Haryana	Jharkhand	Jammu and Kashmir
1	Order Date	Solar Power Policy - 2009 G.R.No.SLR-11-2008-2176-B dated 6th January, 2009	Haryana Solar Energy Policy 2014 - Renewable Energy Dept. Haryana Govt Notification dated	Draft Jharkhand Solar Policy, 2013	Solar Power Policy 2013, No.47 ST of 2013 dt.18/03/2013
2	Eligible Producer	<ul style="list-style-type: none"> Any company or body corporate or association of body of individuals, whether incorporated or not, or artificial judicial person, Minimum project capacity of a Solar Power Generators (SPG), in case of solar Photovoltaic (SPV) and Solar Thermal (ST) to be 5MW each A maximum 500 MW SPG allowed for installation 	Private, IPPs and Public Private sector	Any Individual/ Firm/ Society/ Institution/ Registered Company etc developing Solar power Projects.	Any company or body corporate or association of body of individuals for the purpose of captive use and/or for selling of electricity as per JKSERC/ CERC regulations.
3	Land Allotment		<ul style="list-style-type: none"> Possibility of setting up 50 MW capacity scale solar plants on barren panchayat land and on canals to be explored; To promote installation of small capacity rooftop grid-connected solar plants on the roofs of industries, public and private institutes, school college, commercial institutions/ 	<ul style="list-style-type: none"> In the case of Government assistance for land acquisition/ Government land transfer for Solar Power Plant, the land-use scale will be at maximum 2 Hectare/MW. In case the Developer purchases private land for the project, they will be eligible for an exemption of stamp duty. 	<ul style="list-style-type: none"> Nodal Agency to prepare a Land Bank of Potential sites Available sites to be advertised to seek bids. Government land to be leased to the developer on payment of premium/ rentals to be determined by the Government till the expiry of concession period.

			establishments, hospitals, charitable trust Bhawans and residential buildings etc.		<ul style="list-style-type: none"> In case of non availability of Govt. Land, the land to be arranged by Science & Tech. department J&KEDA / LREDA / KREDA and will be leased out to IPP as token rate to be decided by PAC. Govt. to facilitate forest land, if required and compensation etc. to be paid by entity. For projects on sites identified by the developer, nodal agency to examine the site for determination of power potential while evaluating the price bid of the project.
4	Operative Period	Up to 31.3.2014	From the date of notification up to 31.3.2017	5 years from the date of notification, or until modified or superseded by any other solar policy of the State, whichever is later.	With effect from publication in the State Gazette and to remain in force until superseded or modified
5	Sale of Power and Tariff	<ul style="list-style-type: none"> Open Access for Third part sale Cross subsidy surcharge not applicable for open access for third party sale within the state. 	<ul style="list-style-type: none"> To develop SPV plants of 1-10 MW capacity to fulfill Solar Renewable Purchase Obligation to ensure that entire requirement of solar power required to be purchased by DISCOMs under RPO is purchased from developers situated within the state by March 2017; 	Category I Projects: <ul style="list-style-type: none"> For projects allotted under tariff-based competitive bidding for sale of power to JSEB/its successor Discoms/other distribution licensee, PPA to be executed between JSEB and the successful bidders. 	<ul style="list-style-type: none"> Can be used for captive use or sold to PDD or any 3rd party in or outside state. For sale to PDD, Tariff as per JK SERC.

Sl. No	Name of State/ Description	Gujarat	Haryana	Jharkhand	Jammu and Kashmir
		<ul style="list-style-type: none"> Energy to be sold to Distribution licensees in the State at levelised fixed tariff for SPV & ST (as detailed in Policy) for 25 years 	<ul style="list-style-type: none"> To encourage and facilitate IPPs to install solar plants for captive use or for third party sale on average power purchase cost to the DISCOM under REC mechanism Possibility of setting up 50 MW capacity scale solar plants on barren panchayat land and on canals small capacity and explored. To promote roof top grid connected solar plants on the roofs of industries, public and private institutes etc Entire Power from above to be purchased by Discoms at Haryana tariff 	<p>Category II Projects:</p> <ul style="list-style-type: none"> PPA to be executed between the Power Producer and the Procurer on mutually agreed rates. <p>Category III Projects:</p> <ul style="list-style-type: none"> PPA to be executed between the solar power producer and the Procurer as per the applicable CERC or JSERC Regulations/ Orders. <p>Category IV Projects</p> <ul style="list-style-type: none"> PPA to be executed between the solar power producer and the Procurer (NWN or Solar Corporation of India) and/ or JSEB or its successor Discoms as per Guidelines under JNNSM. 	<ul style="list-style-type: none"> For third party sale, infrastructure facilities of PDD as available will be provided subject to payment of Open Access charges & losses as approved by JKSERC. T&D losses also to be borne by the developer. Distribution licensees in J&K are mandated to purchase solar power specified by JKSERC.
6	Wheeling	As determined by GERC from time to time.	Wheeling charges as per HERC Regulation 2010 with amendments	<ul style="list-style-type: none"> Wheeling available through JSEB/ Discoms, as per wheeling charges specified by JSERC for wheeling within or outside the state. State Govt. to provide a grant of 4% of the wheeling charges, 	<ul style="list-style-type: none"> Transmission to be on T&D network of Power Development Department (PDD), wherever feasible. Point of interface between the network of PDD and SPP shall be specified in the

				in terms of energy injected and the balance shall be borne by the developer.	agreement executed between PDD and the entity
7	Banking		<ul style="list-style-type: none"> Banking allowed for a period of one year IPP to pay difference of unscheduled industry charges (UI Charges) at the time of injection and drawl Withdrawal of banking power not allowed during peak and time of day (TOD) Hrs. If the banked energy is not utilized within 12 months from the date of banking it will automatically lapse and no charges shall be paid in lieu of such power. 	<p>Banking of 100% of energy during every financial year permitted subject to the following conditions:</p> <ul style="list-style-type: none"> Banked energy during the Financial Year subject to verification by JSEB / Discom. Developer to pay 2% of the banked energy towards banking charges to JSEB /Discom. Return of banked energy shall be as per JSERC Regulations. Balance energy, if any, at the end of a Financial Year shall be purchased by the Discom in accordance with the JSERC rules and directions. 	Banking for captive use or/ and for 3rd party sale shall be provided for 2 months.
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Power by the SPG to be injected at 66 kV. Evacuation facility from the Solar substation/ switch year to GETCO substation to be approved & laid by GETCO 	<ul style="list-style-type: none"> All expenses for power evacuation, transmission and distribution lines and synchronizing equipment to be as per orders of HERC. For Roof Top interactive SPV system, all arrangements for power evacuation shall be made by Power generators 	<ul style="list-style-type: none"> Evacuation facility from solar plant to JSEB sub-station shall be approved by JSEB. Power to be injected at 33 KV. Transmission lines from switchyard of solar power plant to JSEB sub-station 	<ul style="list-style-type: none"> Evacuation facility through open access shall e provided after analysing the system availability. The developer to be responsible for developing necessary infrastructure upto inter connection/interface point

Sl. No	Name of State/ Description	Gujarat	Haryana	Jharkhand	Jammu and Kashmir
		<ul style="list-style-type: none"> Electricity generation would be metered jointly on a monthly basis by GEDA/GETCO. Transmission Line from SPG switchyard to GETCO substation shall be laid down by GETCO. 	as per technical specification, guidelines and regulations of HERC.	<p>shall be laid by JSEB for category - I & IV projects.</p> <ul style="list-style-type: none"> For category II & III projects, lines shall be laid by the developer. Interconnection arrangements to be in accordance with the JSEB or the Discom's requirement and as per JSERC/CERC Regulations. 	<ul style="list-style-type: none"> To facilitate connectivity synchronisation with the grid for remote areas it shall be in accordance with policy of Government of India
9	Incentives and General	<ul style="list-style-type: none"> Developer to pass 50% on the gross benefit of CDM the distribution licensee SPGs installed and commissioned during the period to be eligible for the incentives, for a period of 2 years from the date on commissioning Exempted from payment of electricity duty for sale through all modes / self consumption) / sale to third party/sale to licensee. Cross subsidy surcharge shall not be applicable for open access obtained for third party sale within the state. 	<ul style="list-style-type: none"> Exemption from conversion charges, Change of land use charge, external development charges, scrutiny fee and infrastructure development charges All new solar energy projects to be treated as industry in terms of industrial policy of the State and all incentives available to the industrial units under the policy to be available to the solar power producers. CDM Benefits as per Haryana Govt. Notifications/HERC Regulations 	<ul style="list-style-type: none"> All Solar power projects (including captive units) are eligible for exemption from payment of 50% electricity duty and cess for a period of 10 years from the date of commissioning. Captive plants to have 50% exemption on electricity duty for a period of 5 years. JREDA shall be the nodal agency for the registration and the post development activities for the developers of the Solar Power Projects of category II, III & IV. Bidders for Category - I are not required to register for participation 	<ul style="list-style-type: none"> Solar Power plants (SPPs) installed and commissioned during the operative period to be eligible for the incentives declared under this policy for 25 years from the date of scheduled commissioning of as approved by MNRE. No entry tax to be levied by the state Govt. on Power generation/ transmission equipment and building material used for SPPs. Mortgage deed in favour of financing institution exempted from payment of stamp duty. Exemption from court fee for registration of

			<ul style="list-style-type: none"> Allocation of Solar Plants to IPPs is by Selection through competitive Bidding 	<p>in the bidding process. The companies who have signed the MoU with State Govt. are required to register under this clause.</p> <ul style="list-style-type: none"> Developer of category-I project not allowed to transfer the project before commissioning. Even after commissioning, such transfer may be permitted with the prior approval of the Energy Department, State Govt., against a non-refundable fees to be fixed by the State Govt. Reactive Power Charges: In case of drawl of Reactive Power, the necessary JSERC prescribed charges shall be payable. Developer intending to generate and distribute electricity in a rural area notified by the State Government, no distribution License is required, subject to complying with EA, 2003. 	<p>documents for lease of land</p> <ul style="list-style-type: none"> No royalty in the shape of free power to be paid for solar projects. Electricity duty for self consumption/sale to third party/sale to licensees' @4 paisa/unit. Exemption from demand cut of 50% of installed capacity for captive use. Developer to pass the gross benefits of CDM to the Distribution licensee with whom PPA is signed. Reactive power availed from the generating stations to be charged as per JKSERC order. Only new plant and machinery shall be eligible for installation under this policy. Entity to be responsible for submission of documents to concerned authorities with in 12 months from the date of allotment of project.
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Sl. No	Name of State/ Description	Gujarat	Haryana	Jharkhand	Jammu and Kashmir
				<ul style="list-style-type: none"> Solar projects implemented under this Solar Policy to have the status of industry and will be eligible for all benefits under Industrial Policy 2012 (or subsequent amendments). In case of any inconsistency, the provisions under the new Solar Policy shall prevail Equipments purchased for installation of Solar power plants under the policy shall be exempted from VAT and entry tax. Clean Development Mechanism (CDM) benefits as per JSERC. If open access is granted to any developer or beneficiary, they shall have to pay the applicable open access charges and losses as approved by JSERC from time to time. 	<ul style="list-style-type: none"> Entity to achieve the financial closure within three months from the date or receipt of all statutory approvals and clearances. Project to be completed and made operational within 24 months after receiving all statutory clearances. Failure to fulfil any of the commitments/ conditions to result in automatic cancellation of the allotment of site and forfeiture of upfront premium amount. No Compensation would be payable to the entity in such instances. Entity to deposit upfront premium to the Nodal Agency within one month from the date of allotment of the site.



COMBINED SUMMARY OF STATE POLICIES FOR SOLAR POWER

Sl. No	Name of State/ Description	Karnataka	Kerala	Madhya Pradesh	Manipur (From RE policy of State)
1	Order Date	<ul style="list-style-type: none"> Karnataka Solar Energy Policy 2014-2021 - Order No. EN 61 NCE 2011 dated 01-07-2011 for the period 2011-2016 Amendment Order No. EN 21VSC 2014 dated 22-05-2014 Issued by Energy Department, Govt. of Karnataka. 	Kerala Solar Energy Policy 2013 - G.O(P) No. 49/2013/PD Dated-Thiruvananthapuram, 25/11/2013	Implementation of Solar Power Based Projects in MP dated 20 July, 2012	Policy on renewable sources for promotion of generation through non-conventional energy sources vide No.1/1/2005- S& (Misc) dated 12-09-2006
2	Eligible Producer	<ul style="list-style-type: none"> For Grid connected utility scale project.-any Individual/Firm/Society/ Institution/Registered Company including Public utilities shall be eligible to apply. For Grid connected, roof top projects - All individuals residential/ commercial/Institutional. Govt. building owners, Industrial units are eligible to set up solar power plant. 		<ul style="list-style-type: none"> All solar power developers and manufacturing units of equipments and ancillaries related to Solar Power Projects Any individual firm/ society/institution/ Registered company shall be eligible to apply 	<ul style="list-style-type: none"> All Power producers generating Grid-grade electricity with installed capacity not exceeding 25 MW Producers generating electricity for captive consumption Companies, Co-operative, partnerships, Village Development Board/Village Authorities, individuals etc.
3	Land Allotment	<ul style="list-style-type: none"> GoK contemplates to facilitate deemed conversion of land for solar projects by amending section 95 	<ul style="list-style-type: none"> Developer to be responsible to identify the land for project. Government to assess the land suitable for the 	<ul style="list-style-type: none"> Govt. land if available shall be 3.0 Hectares per MW. In case of Govt. revenue land and permission for 	

		<p>of land reforms ACT</p> <ul style="list-style-type: none"> A separate dedicated cell with staff drawn from revenue dept shall be created in KREDL, to ensure creation of Govt. Private land banks for development of solar projects on lease basis including formulation of modalities, fees, etc. GoK will permit the purchase of agricultural land for development of solar project and contemplates time bound permissions on payment of specified fees. 	<p>development of solar installations in the possession of Government/private/tribal individuals.</p> <ul style="list-style-type: none"> For tribal lands, in addition to the lease rentals, a revenue (not profit) sharing mechanism for the land owner is envisaged. 	<p>land use, the circulars dated 06.09.2010 and 08.08.2011 of the Revenue Department (GoMP) shall be applicable.</p> <ul style="list-style-type: none"> permission from concerned authorities required for of forest land For purchases of private land developer is exemption of 50% of stamp duty. For Govt. Land, New and Renewable Energy Department shall take possession of the land and subsequently give permission for use of the land to the developer. 	
4	Operative Period	The policy will come into effect from 2014 and shall remain in force until 2021 or till such time any changes are made by the State Government.	Policy to come into operation with effect from the date of publication and will remain in force until superseded or modified by another Policy.	From the date of notification in Madhya Pradesh Gazette. Notified in Gazette in Hindi vide notification dated 20th July, 2012	From the date publication until superseded or modified
5	Sale of Power and Tariff	<ul style="list-style-type: none"> It is proposed to achieve minimum 1600 MW of grid connected utility scale solar power generation projects for sale of power to state ESCOMs, 3rd party sale and captive consumption. 	<ul style="list-style-type: none"> Sale of power to KSEB shall be as at a tariff decided by KSERC or at the pooled cost of the power purchase of the utility or net metering. 	<ul style="list-style-type: none"> Power generated to be purchased APPC rates. MPPMCL to enter in to PPA for purchase under REC mechanism. Third party sale to be allowed within/outside the state as per 	<ul style="list-style-type: none"> Power Department to purchase electricity at a minimum rate of Rs.2.25 per unit to be increased every year for 10 operational years.

Sl. No	Name of State/ Description	Karnataka	Kerala	Madhya Pradesh	Manipur (From RE policy of State)
		<ul style="list-style-type: none"> Projects to promote distributed generation by land owning farmers with a minimum capacity of 1MWp and maximum capacity of 3MWp per farmer for sale of power to ESCOMs at KERC tariff rates. GoK intends to bring various HT categories of consumers with connected load of more than 50 kVA under Solar Purchase Obligation (SPO) with the consent of KERC. 	<ul style="list-style-type: none"> KSEB to have first right of refusal for the power from the plants established in private lands / premises, except in cases of self/captive use. KSERC to annually notify the Pooled Cost of Power Purchase of the utility as applicable to solar power sector. Energy charges for the grid connected plant to be settled on a monthly basis between developer and the utility. 	<p>Electricity Act 2003 and orders / regulations issued by MPERC.</p> <ul style="list-style-type: none"> In case of sale of total or part of power to third party by developer with consent from MPPMCL, developer shall have to pay MPPMCL for the energy sold, at half rate of difference of third party sale rate and prevailing APPC rate of MPPMCL for that year, on monthly basis. In Category I Projects, PPA to be executed between MP Discoms / MP Power Management Company Ltd. and successful bidders as per the tariff arrived by the process of tariff based bidding. However, the rates shall not be more than the rates specified by MPERC. In Category II Projects: PPA to be executed between the power producer and the procurer on mutually agreed rates. 	<ul style="list-style-type: none"> Thereafter the rate of increase to be mutually settled between Power Deptt. and developer. PPA for 20 years unless Developer wants shorter period

				<ul style="list-style-type: none"> In Category III Projects: PPA to be executed between the power producer and the procurer as per regulations/orders of CERC/ MPERC. In Category IV Projects: PPA to be executed between the power producer and the procurer (NVVN/MP Discoms/MP Power Management Company Ltd.) as per guidelines under JNNSM. 	
6	Wheeling	<ul style="list-style-type: none"> Wheeling charges to be applicable as determined by KERC from time to time. All transactions between KPTCL/ESCOMS/ Distribution Licensee and the Developer involving wheeling or sale of power to be settled on monthly basis 	Wheeling and T&D losses not applicable for the Captive Solar generators within the state.	<ul style="list-style-type: none"> Wheeling through MP Power Transmission Company Ltd./ MP Discoms as per wheeling charges decided by MPERC Government of MP to provide grant of 4% in terms of energy injected and the balance, if any, to be borne by the project developer for the above wheeling. Developer to be responsible for paying all wheeling and transmission charges to MPPTCL/Distribution Company, in case of sale of power to third party 	<ul style="list-style-type: none"> Department to transmit on its grid the power generated by producer and make it available to him for captive use or to a third party for sale within the State, at a uniform wheeling charge of 2% of the energy fed to the grid, Third party to be a HT consumer of power.

Sl. No	Name of State/ Description	Karnataka	Kerala	Madhya Pradesh	Manipur (From RE policy of State)
				<p>Consumers/Distribution Licensee/Power Management Company Limited utilizing their network. Payment shall be subject to MPERC regulations.</p> <ul style="list-style-type: none"> In case of sale of total or part of power to third party by developer with consent from MPPMCL, developer shall have to pay MPPMCL for the energy sold, at half rate of difference of third party sale rate and prevailing APPC rate of MPPMCL for that year, on monthly basis. 	
7	Banking	Banking and cross subsidy charges to be applicable as determined by KERC from time to time.	Conditional Banking facility available to captive generators.	<ul style="list-style-type: none"> 100% subject to verification by the concerned state Discom Developer to pay 2% of the banked energy towards banking charges to the concerned Discom/ state power trading company. Return of banked energy shall be based on regulations issued by MPERC and balance energy, if any, at the end of financial year after 	Allowed up to 1 year

				return of banked energy shall be purchased by concerned Discom/state power trading company in accordance with rules/directions of MPERC.	
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> The developer shall be responsible for connecting the generating station to the nearest grid sub-station or inter-connection point with the grid. KPTCL/ESCOMs may at the request of developer, take up work of construction and maintain the same on cost basis, which will be borne by the developer. KPTCL/ESCOMs shall not collect any network augmentation charges towards system augmentation beyond inter-connection point. Generating plant substation shall be developed and maintained by the producer as per the grid code at his own cost. Developer in consultation with KPTCL to finalize the location of substation at voltage levels 400/220/110/66/33kV. 	<ul style="list-style-type: none"> Developers requiring grid connectivity to apply to the utility and utility to provide connectivity if found feasible after collecting a processing fee. KSEB to act as single window service provider to all grid connected solar plants in association with other state agencies. KSEB to create necessary evacuation facility beyond the pooling station for the projects upto 10MW capacity. For higher capacity plants, KSEB to construct the evacuation facility on deposit work basis. 	<ul style="list-style-type: none"> Developer to lay power evacuation line from generating station to the nearest substation or interconnection point with associated switchgear. In case, MPTCL/MP Discom takes up this work, the cost shall be borne by the developer. Developer under approval of MPPTCL/ Discom, may carry out construction work by paying supervision charges as applicable. 	<ul style="list-style-type: none"> Developer to bear cost for evacuation facilities & interfacing up to the nearest HT lines as well as for Mtc. Alternatively, these works and their maintenance could be undertaken by the Power department at charges to be decided by the Department Cost of augmentation of sub-station capacity at 33/11 kV or higher & transmission lines to be borne by the Department.

Sl. No	Name of State/ Description	Karnataka	Kerala	Madhya Pradesh	Manipur (From RE policy of State)
9	Incentives and General	<ul style="list-style-type: none"> Tax concessions in respect of entry tax stamp duty and registration charges shall be as per Karnataka Industrial Policy. The Industrial Consumers opting to draw power from Solar Power Projects under Renewable Energy Certificates (REC) Mechanism, Projects under Captive/group Captive Generation and Projects under Independent power Producer shall be allowed corresponding pro-rata reduction in contract demand on a permanent basis but subject to the decision of KERC in this regard. Solar PV projects shall be exempted from obtaining clearances of pollution control board. In case of drawl of Reactive Power for the project, necessary charges shall be payable at the rates prescribed by KERC. 	<ul style="list-style-type: none"> Open access Charges not applicable. Electricity Duty - Energy generated from the plants to be fully exempted from paying the Electricity duty. Tariff incentive for consumers opting for solar generation to be offered. Incentive for people's representatives/ panchayats for promoting solar installations and street light optimization. Solar Procurement Obligation (SPO) will be mandated for Commercial consumers with more than 20kVA connected load, LT Industrial with more than 50kVA connected load and for all HT & EHT consumers in a phased manner. All HT/EHT consumers shall have to procure 0.25% of their energy consumed through SPO till March 2015 with 10% increase every year. 	<ul style="list-style-type: none"> All solar projects including captive units are exempted from payment electricity duty and cess for a period of 10 years from the date of commissioning of the project. Only new plant and machinery shall be eligible for installation under the policy. Projects implemented under this policy eligible for benefits under industrial promotion policy. In case of inconsistency between MP Industrial Promotional Policy and Solar Policy, provisions under New Solar Policy shall prevail. Equipment purchase for installation of solar power plants under this policy exempted from VAT and entry TAX. CDM Benefits to be as per provisions specified by MPERC. 	<ul style="list-style-type: none"> All transactions involving wheeling, banking or sale of power to be settled on monthly basis Exemption from electricity duty for 5 years from COD for captive use or third party sale. Producers to be treated as industrial units and similar incentives available to them Concessions given to Industrial units in backward areas to be provided Infrastructural facilities to be on the lines of industrial units if plant is set up in industrial area developed by State Govt. Govt. of India Incentives Exemption of tax on Solar devices and spare parts. Sale Tax exempted MANIREDA to facilitate grant of loans by IREDA & MNRE & accord of clearances for execution.

		<ul style="list-style-type: none"> Fees and charges applicable for the year 2014-15 across various categories of utility scale and roof top projects are as per policy. Various GoI incentives/ concessions allowed by MNRE viz. Central Excise Duty and Custom Duty exemption to be allowed to the Producer. 	<ul style="list-style-type: none"> From April 2015 onwards the same shall be applicable for commercial consumers and LT industrial as per the criteria mentioned above. The above to be made applicable for domestic consumers consuming more than 500 units per month at a later stage. 	<ul style="list-style-type: none"> Open access, reactive power and renewable purchase obligation, the provisions specified by MPERC shall be applicable. Developer is free to surrender project after registration but performance guarantee shall be forfeited unless it is established that the surrender of project was beyond developer's control. Transfer of Project is not allowed without the prior approval of GoMP before its commissioning. Payment of fees (non refundable) of Rs.1.00 Lac per MW shall be applicable for transfer. No fossil fuel shall be allowed to be used in the grid connected solar thermal project. No license required for Generation and Distribution in rural area but developer to comply with Electricity Act 2003. 	<ul style="list-style-type: none"> If the applicant does not take effective steps (i.e., at least 10% of the total project cost not incurred within six months) to implement the project, the agreement to be terminated and site allotted to another applicant
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COMBINED SUMMARY OF STATE POLICIES FOR SOLAR POWER

Sl. No	Name of State and Developer	Meghalaya (From RE policy of State)	Mizoram (From RE policy of State)	Odisha	Punjab (From RE policy of State)
1	Order Date	<ul style="list-style-type: none"> Policy for promoting generation of power through non-conventional energy sources 	Power policy for power through non-conventional energy sources	Odisha Solar Power Policy - 2013, Draft-Resolution	New and Renewable Source of Energy (NRSE) Policy vide No.10/174/2012/STE(3)4725 dated 26 Dec, 2012. Policy to replace and supersede the previous policy i.e. New and Renewable Source of Energy (NRSE) Policy 2006, notified vide no.10/106/2006-STE(1) 5390 dt. 24/11/2006
2	Eligible Producer	<ul style="list-style-type: none"> Power producing entrepreneur. Companies, cooperative, partnership individuals etc. All power producers generating grid-grade electricity with installed capacity between 10 kW and 25 MW 	<ul style="list-style-type: none"> Companies, cooperative, partnerships, individuals, charitable societies, Non- Governmental Organizations, etc. Producers generating 10 kW to 25 MW of grid-grade Electricity Producers in the joint-sector, formed by Government agencies and the producers. For captive consumption. 	<ul style="list-style-type: none"> Developers to be selected through competitive bidding process only on basis of application invited by OREDA from time to time. Selected developers to approach the single window for statutory clearances such as land, water, power evacuation etc. 	<ul style="list-style-type: none"> Persons generating electricity from non covenantal energy sources No restriction on generation capacity or supply of electricity to State grid
3	Land Allotment		<ul style="list-style-type: none"> Land lease not exceeding 99 years 	<ul style="list-style-type: none"> Government land earmarked for industry under the "Land Bank" scheme and other Government land wherever applicable will be allotted for generating units. 	<ul style="list-style-type: none"> If the land belongs to local bodies/ gram panchayat, the State would encourage them to provide the land for RE project.

				<ul style="list-style-type: none"> • State to develop solar parks by following two different models: • In the first model suitable waste land to be identified for setting up of solar power plant and sold to selected developers as per provision of IPR, Government of Odisha. • In the second model OREDA to own the land and develop infrastructural facilities like approach roads, boundary wall, water, auxiliary power, power evacuation facility etc. and provide the land to selected developers on 30 years lease basis at predetermined lease rent. • Developments, if they so wish can also set up their projects outside the solar park for which they have arranged the land themselves. 	<ul style="list-style-type: none"> • Important: Govt. is to promote investment through private / public sector participation for 1000MW of power generation from Solar energy.
4	Operative Period		From the date of publication till superseded or modified	Policy will come in to operation with effect from the date of resolution and will supersede the policy guidelines for power generation from nonconventional energy sources - 2005 with respect to the content related to solar power generation.	From date of Notification in the official gazette till Govt. issues New Policy

Sl. No	Name of State and Developer	Meghalaya (From RE policy of State)	Mizoram (From RE policy of State)	Odisha	Punjab (From RE policy of State)
5	Sale of Power and Tariff	DISCOM to purchase electricity at SERC rate & on mutually accepted terms and conditions	<ul style="list-style-type: none"> Department to purchase electricity at a minimum rate of Rs. 3.50/unit applicable for the year 2002-03 with escalation of 5% every year for 10 operational years. Thereafter the rate of increase to be mutually settled between Department and the Producer. It shall not be compulsory for power producer to sell power to Department Developers with concurrence of the Department may sell the electricity to a third party within and outside the State, at a rate to be mutually settled between them. PPA for minimum period of 10 years unless Developer wants for shorter period 	<ul style="list-style-type: none"> Developer may be allowed to sell energy to Bulk Suppliers/ Distribution Licensees on a basis of a Power Purchase Agreement (PPA) with the Licensees to be approved by OERC. Energy from the captive power plant, not utilized during the year by the Developer for his captive use will be treated as sold to GRIDCO/ DISTOCS at the price to be negotiated with them and approved by OERC. In case of failure to sell power in open access, developers may sell power to GRIDCO/ Discoms or to any third party within the state at mutually agreed tariff rates subject to approval of the same by OERC. Power generated from these projects to be purchased by GRIDCO / Discoms at average pooled power cost determined by OERC from time to time. 	<ul style="list-style-type: none"> As per PSERC RE tariff orders and shall be governed by RE regulations. Projects allotted through tariff based competitive bidding/discount on professional tariff, the tariff arrived after competitive bidding/ discounted tariff to be applicable in accordance with CERC RE Regulations.

6	Wheeling	<ul style="list-style-type: none"> STU to transmit on its grid the power for captive use of developer or to a third party or sale within the state, at an applicable wheeling charge. Third party to be HT consumer of the power unless relaxed by the DISCOM. 	<ul style="list-style-type: none"> Department to transmit on its grid the power generated and make it available to him for captive use or to a third party nominated by eligible producer for sale within the State, at a uniform wheeling charge of 2% of the energy supplied to the grid. Third party to be HT consumer unless condition relaxed by DISCOM 	<ul style="list-style-type: none"> Developer may use T&D network of GRIDCO/ DISTCOS for carrying power to the destination of use on payment of T&D and wheeling charges as approved by OERC. Developer may transmit power outside the state on payment of transmission/wheeling charges as determined by OERC. No license is required for generation and distribution of electricity in rural areas. 	<ul style="list-style-type: none"> 2% of the energy fed to the grid or as amended from time to time by PSERC. Wheeling/transmission of power to be governed by Open Access Regulations.
7	Banking		Allowed up to 1year	<ul style="list-style-type: none"> Banking of energy generated through a captive solar power plant allowed on Annual basis as per financial year. Unutilized energy during the year to be paid as per the rates to be negotiated between GRIDCO/Discom and the developer. Banking charges to be payable as approved by OERC. 	Allowed for 1 year. However, energy bank during non-paddy season and non-peak hours will not be allowed to be drawn during paddy season and peak hours respectively.

Sl. No	Name of State and Developer	Meghalaya (From RE policy of State)	Mizoram (From RE policy of State)	Odisha	Punjab (From RE policy of State)
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> Developer to bear cost for evacuation facilities & interfacing up to the nearest HT lines as well as for Maintenance. Alternatively, these works and their maintenance could be undertaken by the DISCOM at charges to be decided by the DISCOM/ SERC 	<ul style="list-style-type: none"> Developer to bear cost for evacuation facilities & interfacing up to the nearest HT lines as well as for Maintenance Alternatively, the above works and their maintenance could be undertaken by the Department at charges to be decided by the Department and the producer on mutual agreement. Cost of augmentation of sub- station capacity at 33/ 11 kV or higher & transmission lines to be borne by the Department 	<ul style="list-style-type: none"> Grid interfacing arrangements to be made by solar power producers/OPTCL/ DISCOMs as per the following: Generating plant – Generating plant sub-station to be developed and maintained by developer as per the grid code and entire cost to be borne by him. Solar plant to be integrated by installing RTUs by developer. Solar power producers to ensure the average power factor of 0.95 (lagging) to 1.0. <p>Receiving sub-station -</p> <ul style="list-style-type: none"> Location for sub-station for 33kV and above grid connected solar power plants to be finalized by GRIDCO/ OPTCL in consultation with OREDA Location for sub-station for 11kV grid connected solar power plants to be finalized by DISCOMs in consultation with OREDA 	<ul style="list-style-type: none"> Interfacing including installation of substation and meeting equipment on the LT/HT site of the generating station upto the interconnection point and its subsequent maintenance to be undertaken by Power Producer/Plant owner. For sale of power to PSPCL/ Licensee, Transmission link and associated switchgear and ABT complaint check meters to be provided by PSPCL/Licensees For other cases developer to lay the transmission lines and associated switchgear required for evacuation of power, from the generating station to PSPCL/ Licensee/PSTCL grid substation at its own cost. PSPCL/PSTCL/Licensee to provide jumpers at interconnection point as applicable in Regulation/ Tariff order.

				<ul style="list-style-type: none"> • Discoms to allow interconnections of solar power plants connected to LT voltage level as per standard norms fixed by CEA/MNRE/OERC • Solar Power producers to pay Grid connectivity charges as finalized by OREDA to DISCOMS/ GRIDCO as applicable within 3 months of final approval of the project. • T&D Augmentation for Grid interfacing work to be done by developer/ promoter at their own cost with the approval of GRIDCO/DISTCOS • GRIDCO/DISTCOS may maintain the same by mutual agreement on payment of annual charges 	
9	Incentives and General	<ul style="list-style-type: none"> • Infrastructural facilities to be on the lines of industrial units if plant is set up in industrial area developed by State Govt. • Exemption from electricity duty for 5 years from COD for captive use or third party sale. • Sales Tax/VAT deferment/ remission as applicable 	<ul style="list-style-type: none"> • Exemption from electricity duty for captive use or third party sale • Infrastructural facilities to be on the lines of industrial units if plant is set up in industrial area developed by State Govt. Producers to be treated as industrial units and similar incentives available to them 	<ul style="list-style-type: none"> • Power plant generating power set up after the effective date shall be deemed to be a new industrial unit and not liable to pay Electricity duty • Every solar power project proposed to be set up in the state (excluding those set up through competitive bidding process) has to be registered with OREDA. 	<ul style="list-style-type: none"> • RE power generation and consumption by generators themselves fully exempted for levy of Electricity duty • 100% Electricity duty waiver for power consumed from state licensee during construction and testing of the project

Sl. No	Name of State and Developer	Meghalaya (From RE policy of State)	Mizoram (From RE policy of State)	Odisha	Punjab (From RE policy of State)
		<ul style="list-style-type: none"> Meghalaya Non-Conventional and Rural Energy Development Agency (MNREDA), to facilitate clearances for the projects at the State and Central levels and grant of loans by Indian Renewal Energy Development Authority (IREDA) and subsidies by MNRE. Developer to submit applications for projects and grid interfacing to MNREDA and DISCOM. MNREDA/State government to provide clearance within a period of 2 months from the date of submission of application 	<ul style="list-style-type: none"> Concessions given to Industrial units in backward areas to be provided State Government to extend all incentives and facilities granted by the Central Government for similar Undertaking in other States. Equipments and materials exempted from State sales tax All transactions involving wheeling, banking or sale of power to be settled on a monthly basis Reduction in contract demand up to 30% of installed capacity permitted, in case power plant is not utilizing Department's Grid for supply of power to the consumer 	<ul style="list-style-type: none"> State Level Screening Committee (STC) with Principal Secretary/ Secretary, S&T Dept., Govt. of Odisha as Chairperson to be setup for in principle clearance of the projects setup under REC mechanism for sale of power through open access. OREDA will act as Nodal Agency for single window clearance of the projects. 	<ul style="list-style-type: none"> Octroi on energy generation and equipment/machinery for RE power projects exempted. Similarly octroi on self consumption of power by captive plants in the same premises or through wheeling by open access to same group companies is exempted. RE projects exempted from VAT and any cess thereon. 100% exemption from entry tax in respect of all supplies (including capital goods, structure and raw material) for setting up and trial operation of the project. 100% exemption from payment of fee and stamp duty for registration/lease deed charges for land required for the project Solar PV Power projects exempted for obtaining any NOC/consent under pollution control laws from PPCB.

					<ul style="list-style-type: none">• All RE projects developed under this policy to be treated as industry in terms of Industry policy of the state and all the incentives available to new industrial projects to be applicable to the Projects.• Developer to submit a performance security in the shape of bank guarantee of Rs.40.00 Lakhs per MW in case solar projects before signing of IA or as stipulated in the bid document.
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COMBINED SUMMARY OF STATE POLICIES FOR SOLAR POWER

Sl. No	Name of State	Rajasthan	Tripura (From RE policy)	Tamil Nadu	Uttar Pradesh
1	Order Date	Rajasthan Solar Energy Policy 2014	Draft policy for promoting generation of electricity through New & Renewable Energy Sources	Tamil Nadu Solar Energy Policy 2012 - Approved by Govt. of Tamil Nadu vide no. GO(Ms) No.121/Energy(C2) dt. 19-10-2012	Solar Power Policy, Uttar Pradesh, 2013
2	Eligible Producer	<ul style="list-style-type: none"> Utility Grid Power Projects of unlimited capacity for captive use / sale to 3rd Party / States other than Rajasthan through Open Access Power Producer of states other than Rajasthan will also be eligible for RE (Solar) Certificate Development of Solar Parks by Private Sector Developers, through Joint venture Companies (JVCs) 	<ul style="list-style-type: none"> Companies, cooperative, partnerships, individuals, charitable societies, Non Governmental Organizations etc. Government agencies and the producers (JV) Power producers for captive consumption. 	Solar Power projects will be developed through competitive / reverse bidding.	
3	Land Allotment	<ul style="list-style-type: none"> Government land to be allotted to Solar Park Developer/Solar Power Projects as per the provisions of Rajasthan Land Revenue Rules, 2007, as amended from time to time. Solar Park Developer will be empowered to further sub-lease the land Allotment of Government land only on submission 	<ul style="list-style-type: none"> Government Land on lease Private Land on payment basis. Forest Land as per the Forest Conservation Act 	Solar Parks with a capacity of about 50 MW each will be targeted in 24 districts.	<ul style="list-style-type: none"> Identification of suitable locations and the creation of a land bank. Facilitation for the allotment of suitable land/ space under the control of the State Government or its agencies.

		<p>of cash security deposit of Rs 5.00 lac per MW by demand draft / RTGS in favour of RREC, Jaipur</p> <ul style="list-style-type: none"> • In case land is not allotted, security deposit will be refunded. • State will promote setting up of Solar Power Plant / Solar Farm on private land • Khatedar shall be permitted to set-up Solar Power Project on his holding or to sub-let his holding for setting up of such projects without the requirement of land conversion in accordance with the provisions of Rajasthan Tenancy Act 1955 and Rajasthan Land Revenue Act 1956. • Power Producers allowed to purchase private land from Khatedar for setting up of Solar Power Plant in excess of ceiling limit in accordance with the provisions of Ceiling Act, 1973. • For details in regard to maximum land that can be allotted for setting up Solar Power Plant based on different technology may refer the policy 		<ul style="list-style-type: none"> • State to develop solar parks by following two different models: • In the first model suitable waste land to be identified for setting up of solar power plant and sold to selected developers as per provision of IPR, Government of Odisha. • In the second model OREDA to own the land and develop infrastructural facilities like approach roads, boundary wall, water, auxiliary power, power evacuation facility etc. and provide the land to selected developers on 30 years lease basis at predetermined lease rent. • Developments, if they so wish can also set up their projects outside the solar park for which they have arranged the land themselves. 	<ul style="list-style-type: none"> • Grid connected solar power projects will be implemented on suitable land banks identified and procured by the developer. • For Projects to be set up on government land or space, the developer will be selected by the department or a nodal agency through a transparent process. • Nodal agency to provide assistance in arranging the right-of-way, if any, the water supply and the connecting infrastructure, like roads, etc.
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Sl. No	Name of State	Rajasthan	Tripura (From RE policy)	Tamil Nadu	Uttar Pradesh
4	Operative Period	<ul style="list-style-type: none"> Policy to come in to operation with effect from 8.10.2014 and will remain in force until superseded or modified by another Policy. 	Date of its notification till superseded or modified		The policy to come into effect from the date of issuance and to remain in operation till 31st March 2017.
5	Sale of Power and Tariff	<ul style="list-style-type: none"> For sale to Discoms of Rajasthan on the tariff determined by RERC through competitive bidding process to the extent of Renewable Purchase Obligation (RPO) target fixed by RERC. For plants under REC mechanism, captive use, third party sale / sale to other state through Open Access, Producers to deposit security amount of Rs 10 lac / MW in the form of bank guarantee within one month from the date of issue of in-principle clearance For projects established for sale of power through REC mechanism, PPA to be signed as per the regulations/orders of appropriate commission For projects for sale of power to Discoms of Rajasthan security deposit will be governed by 	<ul style="list-style-type: none"> Department / TSECL to purchase electricity at TERC tariff. Third party sale permitted. PPA for a minimum period of 10 years. Department to consider PPA for shorter period on merit. Increase of tariff to be mutually settled between Department / TSECL and the producer 	<ul style="list-style-type: none"> Renewable Energy Certificate (REC) mechanism promotes trading of solar power to meet solar purchase obligations (SPO). All the obligated entities committed to meet SPO will necessarily have to either produce solar power (captive) or buy solar power from Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) or purchase Solar RE Certificates for an equivalent quantity through the Power Exchange from the Promoters who have tradable RE Certificates. Under this mechanism Solar power promoters are eligible to possess one tradable RE Certificate per every 1000 units of energy (1 MWh) wheeled to the Distribution utility or to any other licensee. 	<ul style="list-style-type: none"> Energy generated from solar power projects commissioned during this policy period may be sold to distribution utility of UPPCL, to any third party or used for captive purpose. Developers interested in selling the generated energy to a distribution utility of UPPCL, will have to participate in competitive bidding for the capacity they wish to offer, subject to the approval by UPERC. UPPCL to sign the PPA with the successful bidders for a period of 10 years. Developers, who wish to sell the generated power to a third party, can set up plants under this policy, but will not be allowed to sign a PPA with the

		provision of bid document and PPA <ul style="list-style-type: none"> • PProjects set up for sale of solar power to parties other than Discoms of Rajasthan, Producer to contribute towards Rajasthan Renewable Energy Development Fund, a sum of Rs 1 lac / MW every year for the entire life-cycle of the project from the time of commissioning. 		<ul style="list-style-type: none"> • Tamil Nadu will mandate 6% SPO (starting with 3% till December 2013 and 6% from January 2014) for various categories of HT / LT consumers. • The categories exempted from SPO are Domestic consumers, Huts, Cottage & Tiny Industries, Powerlooms, LT Industrial and Agricultural consumers. 	distribution utility of UPPCL, even in future.
6	Wheeling	<ul style="list-style-type: none"> • In case of captive use, agreement to be executed for wheeling and banking of power with Discoms of Rajasthan • A separate agreement to be executed for wheeling of power with Discoms of Rajasthan 	2% of the energy supplied to the grid.	Allowed	
7	Banking	As per the RERC regulations	2% of the energy supplied to the grid.	<ul style="list-style-type: none"> • Banked for one Financial year. • Unutilised banked energy will be settled at the rate specified in the PPA. 	<ul style="list-style-type: none"> • Banking charges for wheeling of power generated from the Solar Power Projects, to the desired locations for captive use/third party sale within the State will be as per the orders of the TNERC.
8	Power Evacuation and Grid Interfacing	<ul style="list-style-type: none"> • Through the T&D network maintained by RVPN and Discoms 	<ul style="list-style-type: none"> • Developers to bear the entire cost of Power evacuation and interfacing including maintenance to the nearest HT lines. 	Projects to evacuate power at suggested voltages:	<ul style="list-style-type: none"> • Grid connectivity and associated evacuation facilities from the solar substation to the "feed in substation" to be

Sl. No	Name of State	Rajasthan	Tripura (From RE policy)	Tamil Nadu	Uttar Pradesh												
		<ul style="list-style-type: none">RVPN/Discoms of Rajasthan to develop/ augment the necessary T&D network to evacuate the power from receiving Sub-station,Minimum capacity and voltage level of project getting connected to RVPN's receiving GSS, shall be 5 MW at 33 kV.In case projects of capacity less than 5 MW seek inter- connection at RVPN's receiving GSS, shall bear the cost of line bay instead of applicable grid connectivity chargesFor Grid Connected Plants commissioned under Tariff Based Bidding and NSM/ MNRE, power evacuation line from Generating Plant Sub-station/Pooling Sub- station to the receiving RVPN/Discoms Substation will be laid as per terms & conditions of Bid document/RERC RegulationsFor Grid connected Solar Power Plants commissioned under REC mechanism, captive use, third party sale/sale	<ul style="list-style-type: none">Cost of augmentation of sub- station capacity at 3/11 kV or higher and transmission lines to be borne by the Department	<table><tr><th>Solar PV System Size</th><th>Grid Connected</th></tr><tr><td><10kWp</td><td>240V</td></tr><tr><td><10kWp to <15kWp</td><td>240V/415V</td></tr><tr><td><15kWp to <50kWp</td><td>415V</td></tr><tr><td><50kWp to <100kWp</td><td>415V</td></tr><tr><td>>100kWp</td><td>11Kv</td></tr></table>	Solar PV System Size	Grid Connected	<10kWp	240V	<10kWp to <15kWp	240V/415V	<15kWp to <50kWp	415V	<50kWp to <100kWp	415V	>100kWp	11Kv	<p>provided as per UPERC Regulations 2010 as amended from time to time.</p> <ul style="list-style-type: none">IResponsibility of getting connectivity with the transmission system owned by Discom/STU to lie with the Project Developer.Cost of the line up to the "feed in substation" to be borne by the developer.This transmission line shall be constructed by the STU or Discom who owns the "feed in substation".Entire cost of construction of the line, wheeling charges, losses etc to be borne by the developer.
Solar PV System Size	Grid Connected																
<10kWp	240V																
<10kWp to <15kWp	240V/415V																
<15kWp to <50kWp	415V																
<50kWp to <100kWp	415V																
>100kWp	11Kv																

		<p>to other state through Open Access and rooftop plants connected to LT grid, the line from the Generating Plant Sub-station/Pooling Substation to RVPN / Discoms receiving Sub- station to be laid as per regulations / orders of appropriate commission</p> <ul style="list-style-type: none"> Producers may construct Common Pooling Sub-Station to evacuate their generated power to RVPN/Discom substation through common transmission line with separate metering system at their Common Pooling Sub-Station and main metering system at RVPN / Discom Sub- Station. Producer to pay grid connectivity charges as finalized by RERC 			
9	Incentives and General	<ul style="list-style-type: none"> Generation of electricity from Solar Power Plant shall be treated as eligible industry and incentives available to industrial units under Rajasthan Investment Promotional Scheme shall be available to the Solar Power Projects. 	<ul style="list-style-type: none"> Producers to be treated an Industry and similar incentives available to them. Infrastructural facilities to be provided on the lines of industrial units Sales Tax Exemption 	<ul style="list-style-type: none"> Appropriate tax incentives as per Tamil Nadu Industrial Policy will be provided to attract investors from India and abroad. All solar power producers are eligible to avail of the Clean Development Mechanism (CDM) benefits to enhance the viability of the projects. 	<ul style="list-style-type: none"> Provision of special incentivewill be made by the State Government on case to case basis for solar farms where multiple plants are installed and the total investment is over Rs.500crores. Incentives under the Uttar Pradesh State Industrial Policy, 2012 to be

Sl. No	Name of State	Rajasthan	Tripura (From RE policy)	Tamil Nadu	Uttar Pradesh
		<ul style="list-style-type: none"> To allocate required quantity of water subject to the availability of water for power generation. Producer to intimate estimated water requirement to RREC along with source of water. Modification(s) required, if any, in the existing canal system shall be done at the cost of the Power Producer Solar Power plant of all capacities have been notified under Green Category. In-principle clearance of projects to be granted by the State Level Screening Committee headed by Principal Secretary / Secretary Energy, Government of Rajasthan as per criteria detailed in the policy 	<ul style="list-style-type: none"> Incentives provided by Central Government as per "North East Industrial and Incentive Promotion Policy (NEIP), 2007 Solar equipment and materials exempted from State sales tax/VAT alternately reimbursed 100% CDM benefit to developers in first year, 10% to beneficiaries in 2nd year to be increased by 10% every year up to 50% and then shared equally between developer and beneficiary. Producer to deposit an amount equal to 2.5% of the estimated cost of the project as security deposit towards completion of the project within the prescribed time frame. All transactions to be settled on monthly basis. 	<ul style="list-style-type: none"> 100% of electricity generated from solar power used for self consumption/sale to utility, allowed for 5 years. Exemption from demand cut to the extent of 100% of the installed capacity assigned for captive use purpose will be allowed. Only new plant and machinery are encouraged as per international standards. Guaranteed single window clearance will be provided through TEDA in 30 days so that the plants can be commissioned in less than 12 months. Solar water heating system mandatory for new house/building/ marriage halls/hotels etc by amending relevant Acts of Municipalities/ Corporations 	<p>applicable to the solar power plants.</p> <ul style="list-style-type: none"> Expenditure on the construction of transmission line and substation in the Bundelkhand region, to be borne by the State Government. Solar power plant approved, installed and commissioned during this period to be eligible for benefits under this policy. No benefit of this policy will be available to projects set up under any incentive scheme of MNRE. Plants, which want to avail of the incentives under this policy, will have to register with the nodal agency, sign an agreement and furnish a performance bank guarantee till the commissioning of the project as per the time frame given in this policy. Solar power plants of above 5 MW capacity to be built for captive

					<p>use to be eligible for the incentives under this policy either within the premises of the user plant, or outside, with wheeling arrangement.</p> <ul style="list-style-type: none"> • Solar PV projects within 13 months and Solar thermal projects within 28 months from the date of signing of the PPA. • Use of fossil fuel not allowed in a solar thermal power project.
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COMBINED SUMMARY OF STATE POLICIES FOR SOLAR POWER

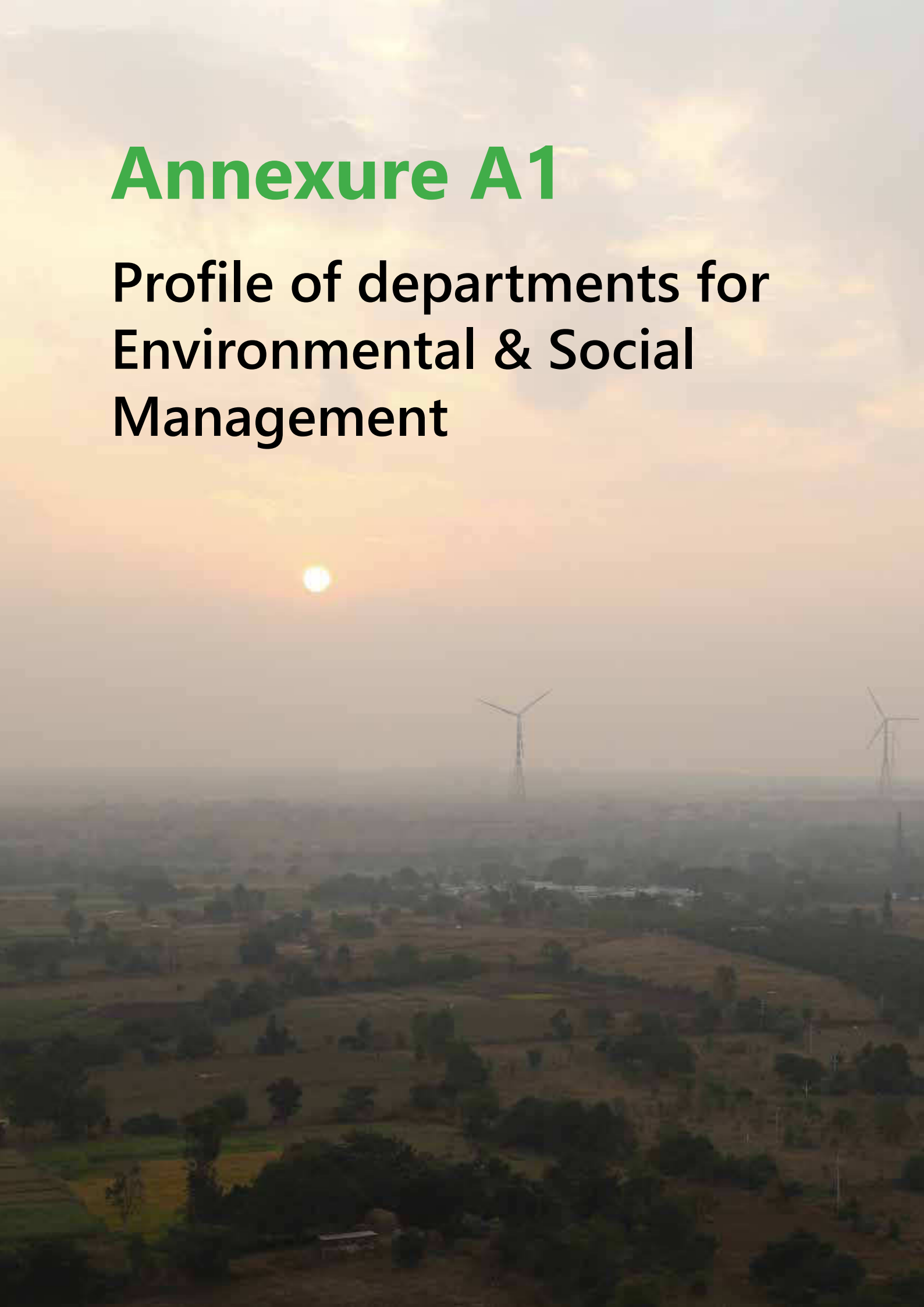
Sl. No	Name of State	Uttarakhand (From RE policy of State)	West Bengal (From RE policy of State)
1	Order Date	Policy for promoting generation of Electricity through renewable sources of energy wide notification dated 5th June 2012. Vide No.263/I(2)/2008-04(8)-96/2001 29th dated Jan, 2008	Policy on Co-generation and Generation of Electricity from Renewable Sources of Energy vide Notification Dated: 5th June, 2012
2	Eligible Producer		There is a target to harness 82 MW of solar power through grid-connected projects and 18 MW of solar power through rooftop and smaller solar installations by 2017.
3	Land Allotment		<ul style="list-style-type: none"> • Government land, if available, permission for use will be given for 30 years or the project life whichever is less. • Land to be allocated and transferred to WBGEDCL, which will then lease the land to the developers. • For projects on private land developer to arrange the entire required quantum of land through direct purchase/ suitable agreement with the land owner.

Sl. No	Name of State	Uttarakhand (From RE policy of State)	West Bengal (From RE policy of State)
			<ul style="list-style-type: none"> R.E. projects may not require conversion of private/ agricultural land to non agriculture purposes subject to necessary government orders passed for these purposes. The allotment of land, if any, shall stand cancelled if the power project is not started within the time frame in accordance with the time limits as stipulated in the Implementation Agreement.
4	Operative Period		
5	Sale of Power and Tariff	<ul style="list-style-type: none"> UPCL to have first right of purchase of electricity UERC to determine price of electricity Government of Uttarakhand to Provide guarantee for Payments to be made by UPCL for purchase of Power 	<ul style="list-style-type: none"> All the electricity generated from the renewable energy projects established within the State of West Bengal are to be preferably sold to the distribution licensees within the State of West Bengal. All transactions between WBSETC/Distribution Licensee and the developer involving wheeling or sale of power will be settled on a monthly basis as per PPA and transmission service agreement executed.
6	Wheeling	<ul style="list-style-type: none"> UPCL/PTCUL to transmit power through its grid for captive use or third party sale within/ outside the state Wheeling charges to be announced in advance 	Allowed
7	Banking	Allowed at mutually agreed terms	
8	Power Evacuation and Grid Interfacing	T&D lines from generation site to be provided by UPCL/ PTCUL	<ul style="list-style-type: none"> The inter-connection point of the renewable energy generation facility with the transmission & distribution system will be as per regulations of the commission. WBSEDCL and the distribution licensee to jointly create evacuation infrastructure for RE projects i.e. pooling stations. The evacuation infrastructure cost beyond the inter-connection point to be borne by the licensees which is to be recovered from consumers as per suitable pricing framework developed by WBERC.

			<ul style="list-style-type: none"> Interfacing equipment and associated switchgear as well as their maintenance to be undertaken by developers at their own cost.
9	Incentives and General	<ul style="list-style-type: none"> CDM Benefits to be passed to the developers Not more than three projects in each category to be allotted to a developer Preference to be accorded to industrial units located in State in the open competitive bidding process provided the bid is not less than 80% of the highest bid If developer does not restrict to the prescribed time schedule of completion of project, premium to be forfeited and allotment canceled Projects to be offered for 40 years from the date of award, Application fee (Non- refundable) - Rs. 5000/- Processing fee (Non- refundable) - For projects up to 1MW - Rs. 10,000/- and more than 1MW - Rs. 25,000/- Security Payment - For projects up to 1MW - Rs. 20,000/- and more than 1MW- Rs. 50,000/- Committee headed by Chief Secretary to accord approvals / clearances through a single window mechanism 	<ul style="list-style-type: none"> Exemption of demand cut to the extent of 50% of the installed capacity assigned for captive use purpose will be allowed subject to the Regulations of the Commission The host and obligated distribution utilities shall provide revolving Letter of Credit from a nationalized bank as a payment security mechanism for all RE projects Developer/Government acquiring land to provide an amount not exceeding one percent (1%) of the project cost for the rehabilitation and resettlement of the persons displaced from the project area. In case of RE project construction in very remote areas, some infrastructural support including approach roads to the project site may be provided at Government cost. Concession and incentives allowed by the Ministry of New and Renewable Energy/Government of India to be passed on by the State Government to the project developer through the designated Nodal Agency. All risks, costs and efforts associated with the availing of carbon credits to be borne by the producer and entire proceeds of carbon credit from approved CDM project, if any, to be retained by the generating company.

Annexure A1

Profile of departments for Environmental & Social Management





A. Profile of Departments for Environmental & Social Management

The following sections provide individual profile of each of the departments for environmental and social management.

A.1 Asset Management Department

Asset Management Department comprising of diversified functions related with Operation and Maintenance, Performance Monitoring, EHS & Systems, Insurance and Commercial & Regulatory with direct involvement of Site incharges as ESMS representatives is responsible for the overall management of EHS through appropriate systems at the corporate and the individual project / Asset levels. EHS & Systems will ensure capacity building of overall assignments related with Environmental and Social management throughout the organization. Some of the key roles and responsibilities undertaken by the Asset Management team are as follows:

- Maintenance of statutory compliance with respect to Environment, Health & Safety for MEIPL's post project phase and associated operations
- Liaison with requisite of governmental as well as law enforcement agency
- Implementation of existing EHS systems and processes at corporate and project / Asset levels;
- Guiding preliminary environmental screening of projects to concern departments as a part of ESMS implementation
- Commissioning of environmental and social impact assessment and other relevant studies for the projects to meet national statutory requirements as well as requirements of international investors and financiers

- Maintenance of EHS related data and records
- Carrying out capacity building exercises of existing employees as well as new employees on EHS risks and mitigation at the project level
- Implementation of the Environment Management Plans (EMP) under ESMP
- Carbon & Climate Change initiatives
- Integrated ISO & Operations Management System
- Internal risk audit aligned with ISO, OMS, ESMS
- Monitoring of overall system performances for continual improvement

A.2 HR & FMS Department

The HR & FMS department is responsible for managing the workforces at the corporate and project/asset level and channelizing of resources including contractual resources at the project levels. It is responsible for the overall management of human resources in the company. Some of the primary roles and responsibilities undertaken by HRGA are as follows:

- Responsible for implementation of the integrated corporate HR & FMS Policies and practices
- Planning and recruitment of new employees as aligned with the business plan
- Managing compliance and statutory requirements records in its functional areas
- Management of performance appraisal & review process
- Implementation of desired employee engagement programmes & practices

- Management of Human Resources Information System (HRIS)
- Assessing and evaluation of competencies of existing employees
- Carrying out of training programs and orientation of new employees
- Liaise with law enforcement agencies whenever necessary
- In Principle responsibility for Contractor and contract worker management including management of statutory compliances with respect to wages, accommodation, welfare and basic labor rights
- Manage harmonious industrial relations with help of other functions
- Handling and management of employee grievances.

A.3 Business Development, Land Procurement & Legal Department

The department established at the corporate level and will be responsible for land procurement at site level with following roles and responsibilities:

- Due diligence of title & obtaining necessary sanctions/approvals related to procurement of subject land & minimizing the risk factor
- Obtaining licenses for development of the procured land from the respective authorities
- Liaison with local bodies and authorities as and when required
- Government sanction/approvals, if any
- Drafting of various kind of documents & Registration etc.
- Examinations of the title papers, revenue record, NCE's with attending all proceedings of the court
- Taking possession, demarcation and mutation of purchased land in revenue records
- Drafting of Agreements, MOU's, Sale/Conveyance Deed, General power of Attorney, Joint Ventures agreements and all other related documents

- Interacting with State Governments for updating state policies
- To build up network and rapport with statutory and administrative bodies and nodal agencies.

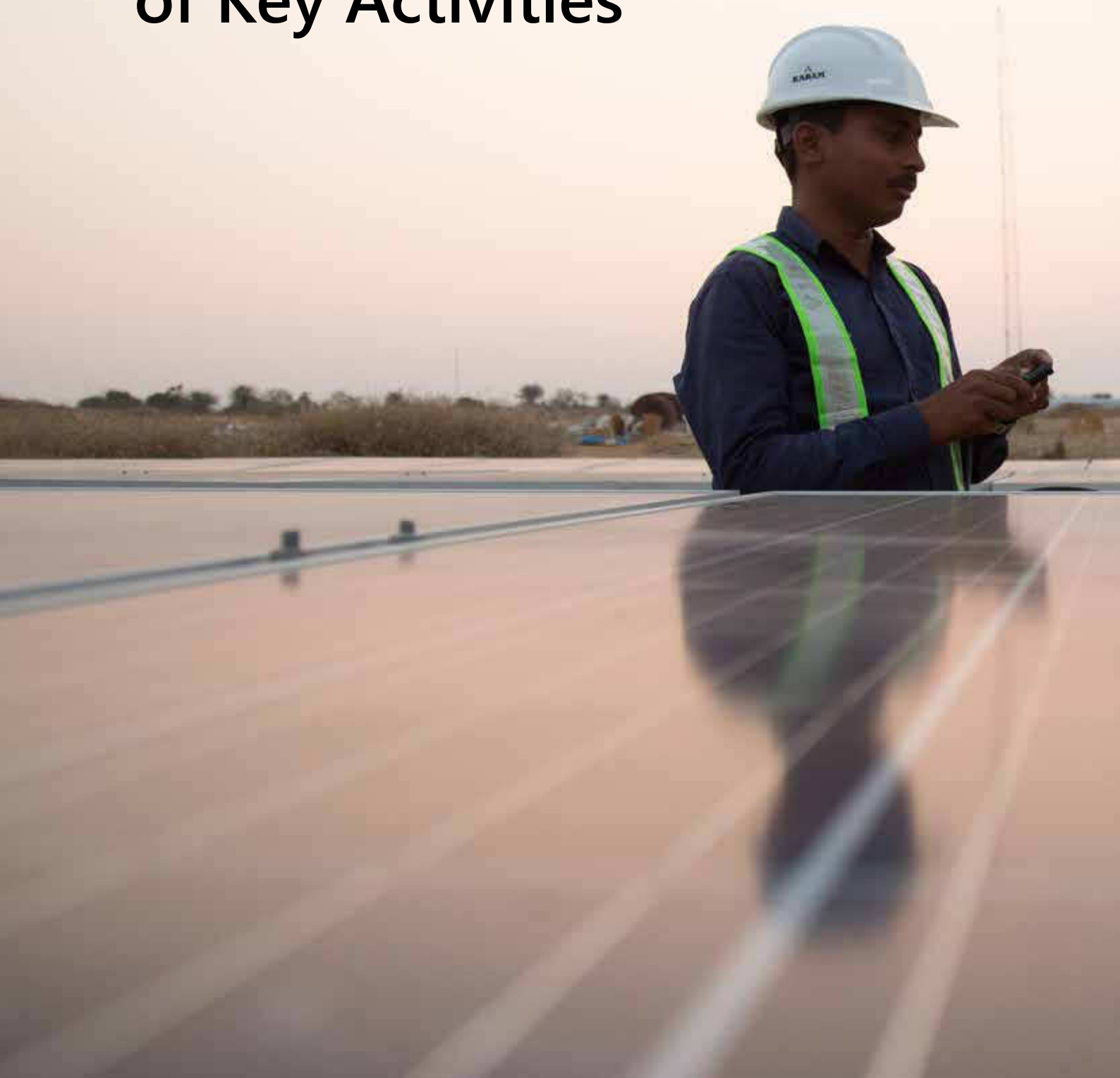
A.4 Corporate Social Responsibility

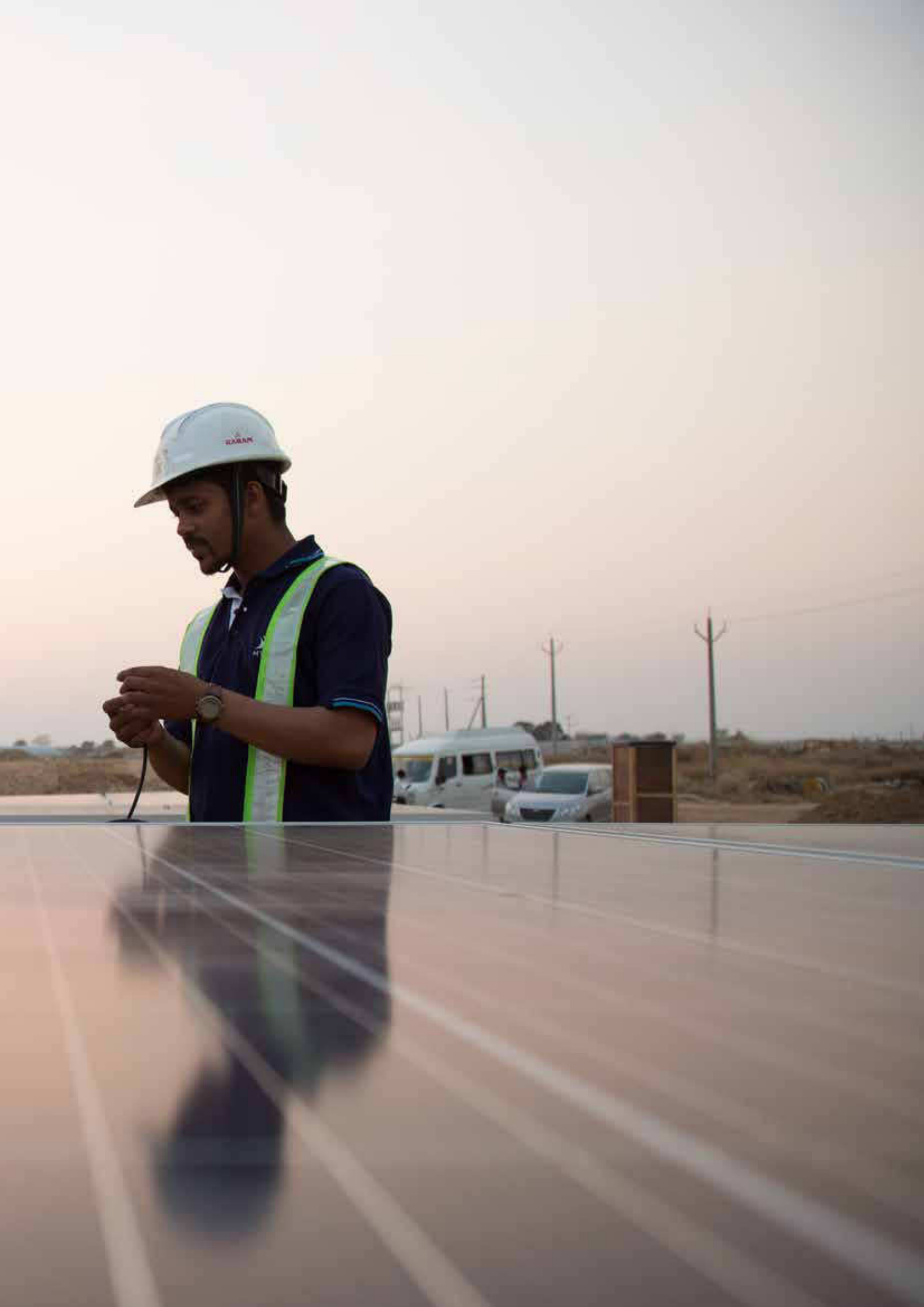
The CSR department established at the corporate level primarily has the following roles and responsibilities:

- Undertaking preliminary social screening of identified projects
- Conducting need assessment studies (internal or external) for project relevant CSR programs and activities directly or through agencies
- Undertaking stakeholder identification, profiling, analysis and influence impact matrix as per the scope
- Defining and developing strategies which underpin the company's CSR objectives in the aspects defined under the central CSR policy
- Developing and reviewing site specific stakeholder engagement plan for implementation through relevant functions
- Ensuring adequacy of SIA within ESIA studies as per the scope with help of concerned departments
- Liaison and maintain good rapport with government, educational institutions & community based organization & engaging them for CSR activities
- Developing evaluation and monitoring indicators for implementation across locations & conducting review meetings at regular intervals
- Establishing effective ways of measuring and articulating MEIPL's impact across various CSR programs
- Ensuring Grievance Redressal Mechanism (GRM) for the community through relevant functions/ departments or third party

Annexure B

Typical Wind Farm and Solar Project and Summary of Key Activities





B. Typical Wind Farm Project and Summary of Key Activities

B.1.1 Introduction

Wind energy, as an alternative to fossil fuels, is plentiful, renewable, widely distributed, clean and produces no greenhouse gas emissions during operations.

Almost all wind turbines producing electricity consist of rotor blades, which rotate around a horizontal hub. The hub is connected to a gearbox (in some cases without gear box) and generator, which are located inside the nacelle. The nacelle is the large part at the top of the tower where all the electrical components are located.

Most wind turbines have three blades, which face into the wind. The wind turns the blades around, this spins the shaft, which connects to a generator, that produces electrical energy from mechanical energy and this is where the electricity is made.

B.1.2 Process Outline

A typical wind power facility has the following components:

A. Wind Turbine Generator (WTG)

- Converts the wind energy in to electrical energy.
- Induction generators (DFIG) are most commonly used.
- Steel Tubular/Lattice & Concrete towers are in vogue.
- Rotor Blades

B. Unit Substation (USS)

- Commonly called as "DP Yards".
- Every WTG will have a USS.

- Main function of USS is to step up the WTG generation Voltage (either 620/690Volts) to Medium high voltage(33/22/11KV) in order to reduce the transmission losses.
- Also protects the WTG from fault currents.
- Comprises a transformer (for step up the generation voltage), VCB (to protect transformer and WTG from fault currents)

C. Medium High Voltage Transmission Line – commonly 33KV.

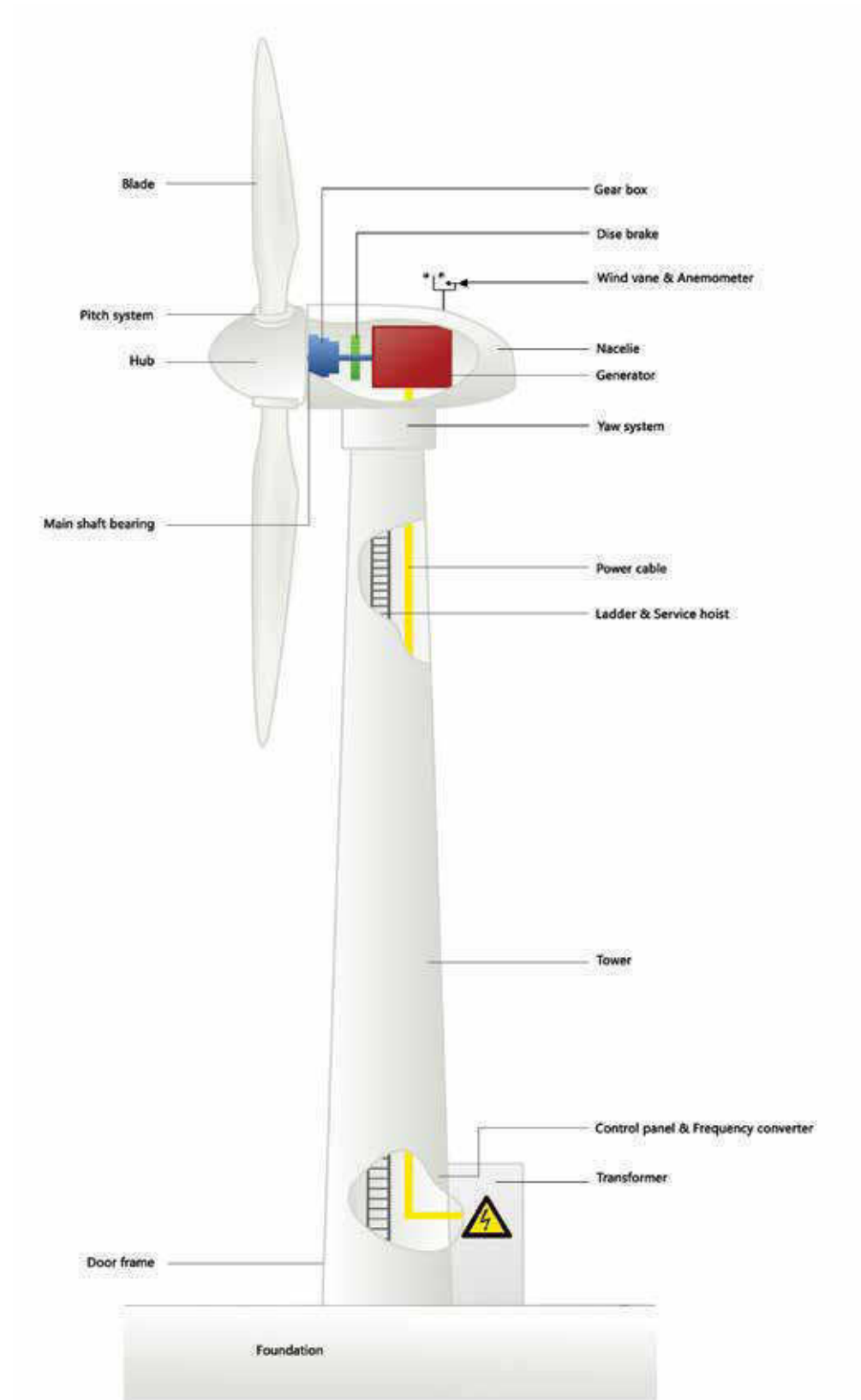
- Usually 33KV OHL are used to interconnect WTGs and connecting it to pooling station
- Galvanized steel or Mild Steel poles used to carry the line conductors
- ACSR or AAAC conductors of Panther, Coyote, DOG and rabbit are commonly used in the 33KV transmission network according to the MWs connected.

D. Pooling Substation (PSS)

- All the WTGs in wind farm will be connected to pooling substation through medium voltage transmission line.
- Usually the delivery point of electrical energy to state grid.
- The main purpose of PSS is to step up the incoming voltage from WTG to the grid voltage for synchronization purpose.
- Tariff Metering will be usually placed in the outgoing line bay (EHV) of PSS.

E. Bay Expansion in Grid Substation (GSS)

- A rough sketch of a typical wind farm is being shown in Figure B.1 below.



Tower

Towers are tubular shells of height 80 meters and a base diameter of 3- 7 metres tapering towards the nacelle. The structure is cylindrical, built of steel and usually consists of two or three joined sections.

Nacelle (or gondola)

Nacelle contains the key mechanical components of the wind turbine, including the gearbox and generator. A yaw mechanism is employed to turn the nacelle in the direction of the prevailing wind. Typically, rotor diameters are 82 meters for 1.5 MW and 88 meters for 2.1 MW.

Blades

The blades, which are set in motion by the energy of the wind, are made of epoxy bounded fibre glass. Modern wind turbines typically have three blades. The blades rotate at 15- 18 revolutions per minute at constant speed. Power is controlled automatically as wind speed varies and machines

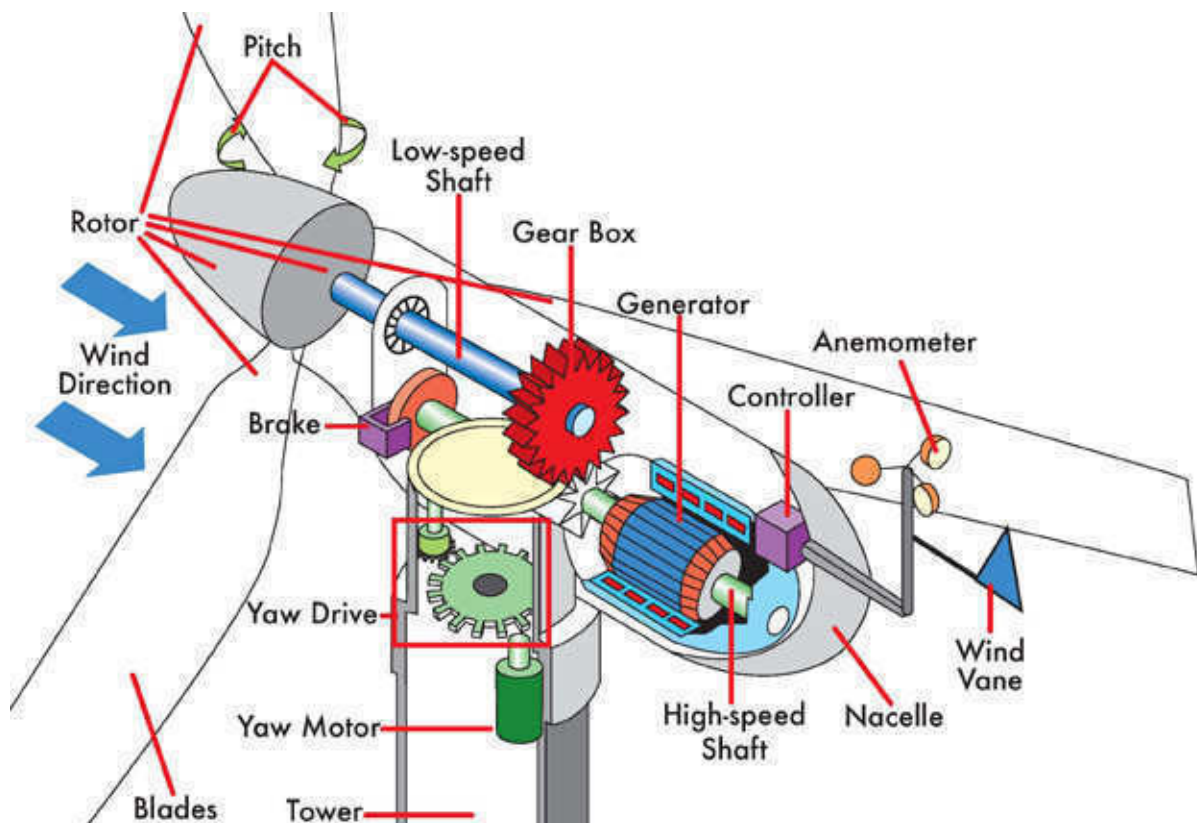
are stopped at very high wind speeds to protect them from damage. The ratio between the speed of the blade tips and the speed of the wind is called tip speed ratio. High efficiency 3-blade-turbines have tip speed/wind speed ratios of 6 to 7. Increasing the number of blades more than two increases the efficiency but the quantum of increase gradually reduces with the increase in the number of each extra blade.

The control box

It contains the mechanical subsystems (main axle, braking system, gear box and electrical generator).

Transformer

This is a device for changing the voltage of the alternating current. Electricity is typically generated at less than 1000 volts by the wind turbine and the transformer "steps up" this voltage to match that of the national grid. This may be housed either inside or alongside the tower.



Concrete base

The concrete base is the foundation on which the whole turbine is to be erected. Turbines typically have bases of between 7 m² and 18 m² in size (nowadays even larger).

Wind turbines, by their nature, are very tall slender structures; this can cause a number of issues when the structural design of the foundations is considered.

The foundations for a conventional engineering structure are designed mainly to transfer the vertical load (dead weight) to the ground, this generally allows for a comparatively unsophisticated arrangement to be used. However, in the case of wind turbines, due to the high wind and environmental loads experienced there is a significant horizontal load that needs to be accounted for. This loading regime causes large moment loads to be applied to the foundations of a wind turbine. As a result, considerable attention needs to be given when designing the footings to ensure that the turbines are sufficiently restrained to operate efficiently

Electronic control systems for safe operation

They are composed of one or more subsystems of microcontrollers and their job is to ensure safe and regular operation of the wind turbine in all conditions. These may be located inside or outside the wind turbines depending upon the design of the turbine.

Transmission line

The transmission lines are required for transmission of electricity from the transformer to the nearest substation or connecting the different wind mills in the grid before finally connecting them to the nearest substation. In India, the cables are generally not led underground, but are laid over the ground owing to some specific issues.

Module mounting structure

The module mounting structure is usually made of steel, with vertical posts rammed in to the Ground. The posts support longitudinal steel rails, which in turn support traverse rails.

Modules

A photovoltaic module is a packaged, connected assembly of solar cells. The solar module can be used as a component of a larger photovoltaic system to generate and supply electricity in commercial and residential applications. Each module is rated by its DC output power under standard test conditions (STC). A single solar module can produce only a limited amount of power; most installations contain multiple modules. A photovoltaic system typically includes a panel or an array of solar modules.

Inverters and Accessories

Advantage of using a central inverter (instead of module oriented inverters) is that the module fields are less sensitive towards partial shading which is generally the case with String Inverters. Due to higher system voltage the central inverters also reach very high efficiency level.

Medium Voltage Transformer / Inverter transformer

Step up transformers are provided to transform the power generated from the inverter to 11KV/ 33 kV level depending upon the grid voltage requirement.

Power Transformer

Power transformer will step up the power from the inverter transformer to the grid voltage level if the grid voltage is above 33KV.

Buildings

There will be a Control Room cum administrative building that will house the Operation & Maintenance personnel, who shall operate and maintain the plant.

Cable

Special DC rated solar cable for connecting the PV module strings to the DC combiner boxes. This cable shall be resistant to UV irradiation, halogen free and flame resistant.

Communication Cables

Data communications between the inverters and DC distributions boxes are with underground cables.

Lightning protection and earthing/ grounding system

The PV array substructure vertical posts act as earthing or grounding posts. All PV module rows will be connected at both ends of the substructure. The whole system will have a ground resistance of less than or equal to 10 ohms. All inverter stations have an external ground which is connected to the PV array substructure thus forming a single ground for the whole power plant. The inverter and MV substations also have an external lightning protection system installed.

B.2. Typical Solar Project And Summary of Key Activities

B.2.1 Solar Energy - A Back Ground

World over, Solar Energy utilization is on the rise as a clean source of energy for power generation. Solar energy technologies tap into the abundant energy available from the Sun and is utilizes the same to generate electricity the world over. Presently, this energy is being harnessed by two distinctly different methods:

- Photo Voltaic (PV) technology and
- Concentrating Solar Power (CSP)

The PV technology relies on photoelectric effect to convert sunlight into electric current by using specially selected and fabricated materials that use the sun's energy to liberate bound electrons in the material which are then captured and channelled to produce electric current.

On the other hand, concentrated solar power (CSP) uses mirrors or lenses to focus a broad field of solar energy onto a smaller receiver. The concentrated thermal energy is then used to drive some form of heat engine that produces either electricity or mechanical work.

B.2.2 Photovoltaic Systems

Photovoltaic (PV) cells or solar cells using the photoelectric effect produce electricity when sunlight falls directly on them. PV cells are often connected together to form PV modules and

modules in turn are combined and connected to form PV arrays in a typically large solar power plant. Based on the construction of PV cells, there are two types of technology that is currently in use:

- Crystalline silicon technology (Mono crystalline, Multi crystalline)
- Thin film technology (where photovoltaic material can be coated or sprayed onto a flexible glass substrate material)

Based on the way the solar modules are mounted, the PV systems can be classified into:

- Fixed-tilt systems.
- Tracking system.

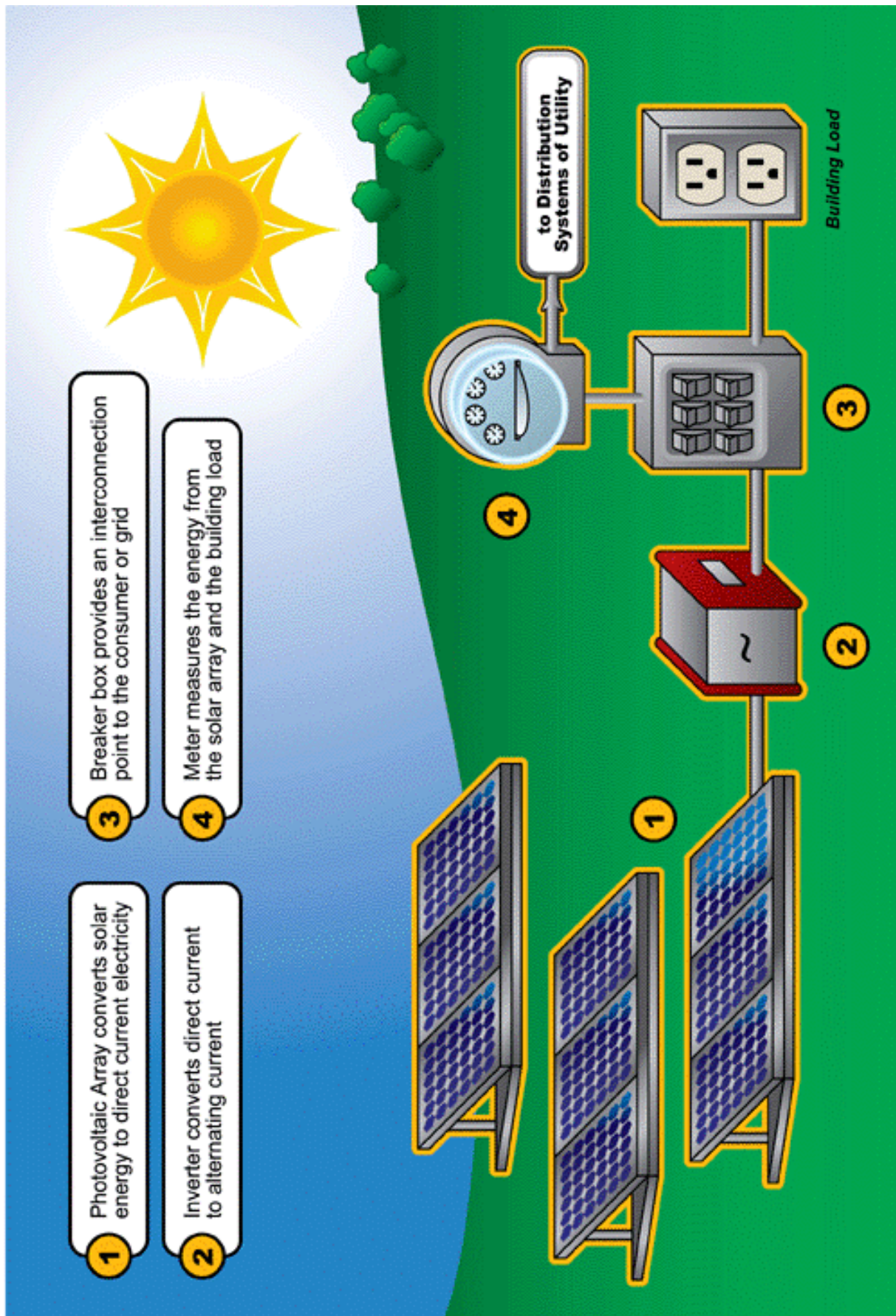
In the fixed tilt system, PV arrays with modules are mounted at a fixed tilt angle and orientation. The array may be mounted on a rooftop, on a pole, or on the ground. In the tracking system, the PV system with modules is mounted on a tracking unit that follows the path of Sun movement. Single-axis trackers follow the sun daily from east to west and two-axis trackers include elevation control to correct for daily sun movement. Tracked systems are more expensive than fixed-tilt systems, but also produce more electric energy per unit area because the array "follows the sun" to increase capture of available irradiance at all times.

B.2.3 Solar Technology Used By MEIPL

MEIPL current business model focuses on PV system based technologies and nothing much into CSP systems.

B.2.4 Components Of A Solar Photovoltaic System Plant

The Project modules are distributed in number of blocks each having an inverter connected with it. The components include the following:



Annexure C

Corporate Policies







Mytrah Energy (India) Private Limited
(CIN : U40108TG2009PTC065804)
8001, S.No.109, Q-city, Nanakramguda,
Gachibowli, Hyderabad - 500032, India.
Tel: +91 40 33760100.
www.mytrah.com

Quality, Safety, Health & Environmental Policy

Policy Statement: Mytrah Energy (India) Private Limited (MEIPL) , wholly owned subsidiary of Mytrah Energy Limited (MEL) with its all Special Purpose Vehicles (SPVs) are committed to provide Safe, Clean and Healthy Working Environment to its employees and stakeholders as an integral part of its business ethics and philosophy.

Company reaffirms continual improvement for its Quality, Safety, Health & Environment (QSHE) performance with full satisfaction of customer in Power generation through renewable sources and transmission services by implementing a structured QSHE management framework in a sustainable and balanced manner.

Scope: Policy applies to employees, contractors across all its operative and applicable stakeholders at large in the periphery of Asset management and will be displayed suitably in office/public domain

Objectives:

- 1) Ensure customer satisfaction with product and services offered by us with proper feedback mechanism.
- 2) Promote a Safe, Clean and Healthy Environment to eliminate/minimise and/or control adverse environmental impact and occupational health and safety risks arising out of our operations.
- 3) Establish and achieve QSHE objectives and Targets with adequate management plan and programs.
- 4) Adhere and comply with applicable QSHE legislations, regulations and other requirements pertaining to EHS and community at large.
- 5) Conserve natural resources and energy and promote waste avoidance and recycling measures in a sustainable way not impacting the nature.
- 6) Ensure involvement of employees, contractors, stakeholders by providing appropriate training and awareness with effective communication for sound QSHE performances.
- 7) Focus on continual improvement of applicable process and performances through reporting, monitoring and reviewing at regular intervals.

Date : 21.05.2016



(Vikram Kailas)
Managing Director

**Mytrah Energy (India) Private Limited**

(Formerly known as Mytrah Energy (India) Limited)

(CIN : U40108TG2009PTC065804)

8001, Sy. No.109, Q-City, Nanakramguda,

Gachibowli, Hyderabad – 500032, Telangana, India

Tel: +91 40 33760100, F: +91 40 33760101

Website: www.mytrah.com, E-mail: mail@mytrah.com

Corporate Social Responsibility Policy

At Mytrah, Corporate Social Responsibility begins with the conviction that the business we do is pertinent and important to the society. Social Responsibility is a proposition that is aligned with our core values and commitment to contribute to the creation of infrastructure and energy security.

Vision

“To be the catalysts of positive change in the society”

Mission

“To contribute towards improving the quality of life of our neighbourhood communities and society at large following a participatory development-oriented approach”

Our Corporate Social Responsibility encompasses the social, economic and environmental facets that are interlaced with our stakeholders’ engagement. To achieve sustainable development, we focus on meeting the needs of the present without compromising the ability of future generations to meet their own needs.

As change catalyst, our key focus areas in CSR intend to empower entrepreneurship to contribute to the economic growth of the country, foster higher education to nurture the pool of young talent in India and help develop and promote divergent sports and sports persons in India.

We deliver CSR Projects and Programmes in adherence with the laws of the land and with passion and professionalism.

Date: 20.6.2016



(Vikram Kailas)

**Vice Chairman &
Managing Director**



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 Website: www.mytrah.com, E-mail: mail@mytrah.com

INTEGRATED HUMAN RESOURCES POLICY

Vision

- To attract, engage, develop and retain talent through effective people practices.
- To build Credible, Reliable and Capable Human Capital to deliver superior individual and business performance.
- To facilitate, create & maintain a safe and friendly work environment.

Key Policy Objectives

- MEIPL is committed to comply fully with the employment objectives of the policy on Staffing and comprehensive requirements of the different businesses of the group.
- MEIPL identifies and select individuals to ensure the best suitability for the current job level, experience and expertise for future needs.
- MEIPL provides equal opportunity to all sections of the society. MEIPL believes, provides and maintains equal opportunities irrespective of caste, creed, gender, race, religion or disability.
- MEIPL is committed to ensure that all new employees are given on-boarding support with a structured induction on the first day of joining at corporate office as a process of integrating the new joiner with the working environment of the organization.
- MEIPL promotes wellbeing of its employees by implementing & maintaining the best people's practices with high standards of work performance and professional conduct across all its services.
- MEIPL is governed by company values & policies which believes that all employees have a right to work in an environment in which the dignity of individuals is respected and which is free from any kind of harassment. MEIPL is also committed to eliminating intimidation or harassment of or in any form.



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- MEIPL strategies the usage of different approaches by segmenting needs for **Capacity Building** of individuals across all levels. It is defined as the "process of developing and strengthening the skills, instincts, abilities, processes and resources that the organization needs to survive, adapt, and thrive in the fast-changing world".
- MEIPL through a robust Performance Management Process endeavours to establish and maintain sustained competitive and equitable compensation and benefits for employees.
- MEIPL provides an equitable platform to all of its employees for registering any form of complaints and grievances and shall oversee addressal of such grievances to a level acceptable to the aggrieved employee.
- MEIPL will adhere to all applicable statutory and regulatory requirements and desired practices as applicable.
- MEIPL strictly forbids the use of any form of illegal labour practices such as child, forced or bonded labour within any of its operations or associated supply chain services.

Date: 26.07.2016


 (Vikram Kailas)
**Vice Chairman &
 Managing Director**



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 # 8001, Sy. No.109, Q-City, Nanakramguda,
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 Tel: +91 40 33760100, F: +91 40 33760101
 Website: www.mytrah.com, E-mail: mail@mytrah.com

LAND PROCUREMENT POLICY

Policy Statement

As a responsible corporate, MEIPL identifies, selects and optimizes the land usage in line with industry best practices, regulatory requirements and uses its innovative plant design practices to minimize environmental and social impact.

Scope

The term "Land" with respect to this policy is defined as any physical part on the earth's surface, not covered by water, identified for the purpose of purchase or lease by MEIPL or any of its subsidiaries for the sole purpose of establishing a solar or wind power project or any associated component to such project.

Policy Objectives

The key policy objectives are as follows:

1. MEIPL will optimize its land requirements as per the government guidelines and best practices.
2. MEIPL will procure only from willing sellers after negotiations in a free and fair manner. The purchase price is arrived at after such mutual discussions.
3. MEIPL will purchase or acquire land as per the legal and statutory requirements governing land procurement in India in a free, fair and transparent manner. Special emphasis will be laid, while procuring land in Scheduled Areas, on lands with possible claims under relevant laws, rules and guidelines by government.
4. MEIPL will minimize the land uptake from small and marginal farmers or land sellers without any other viable landholdings.
5. MEIPL shall lay emphasis on land without any major settlement (structure), important and recognized local heritage or widely used common property resources to the extent possible.
6. MEIPL has a detailed procurement process/norms incorporating the above broad policies, which is strictly adhered to in its procurement of land in different regions.

Date : 26.07.2016



(Vikram Kailas)

**Vice Chairman &
Managing Director**

