Environmental and Social Due Diligence Report

Project Number: 47083-004
December 2019

INDIA: Accelerating Infrastructure Investment Facility in India – Tranche 3

Mytrah Vayu (Krishna) Private Limited (Part 4 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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Annexure to Lr.No.DES & CEIG/GNT/ TS /KUR-92/ D.No. 120 / 2018 ; Dated: 11-01-2018.

M/s. Mytrah Vayu (Krishna) Private Limited, 8.5 MW Wind Power Project, Burgula(V&M), Kurnool - District

S.NO	Details of the Equipment	Existing Load Particulars	Additional Load Particulars	Deleted Load Particulars	Total Load Particulars
I	**WTG Details**				
1	Location - BRG 552	**Generator:-** Make- M/s Windworld India Limited Sl No- 91/11740 Rating- 0.80 MW, WW-53 Model **Transformer:-** Make- M/s Toshiba Sl No- 2116411 Rating- 950 KVA	-----	-----	**Generator:-** Make- M/s Windworld India Limited Sl No- 91/11740 Rating- 0.80 MW, WW-53 Model **Transformer:-** Make- M/s Toshiba Sl No- 2116411 Rating- 950 KVA
2	Location - BRG 553	**Generator:-** Make- M/s Wind World India Limited Sl No- 91/11742 Rating- 0.80 MW, WW-53 Model **Transformer:-** Make- M/s Toshiba Sl No- 2116414 Rating- 950 KVA		-----	**Generator:-** Make- M/s Wind World India Limited Sl No- 91/11742 Rating- 0.80 MW, WW-53 Model **Transformer:-** Make- M/s Toshiba Sl No- 2116414 Rating- 950 KVA
3	Location - BRG 556	-----	**Generator:-** Make- M/s GE Sl No- 6024374 Rating- 2.3 MW **Transformer:-** Make- M/s Kamath Sl No- 17KT33P051SC/102 Rating- 2.5 MVA **Compact Substation:-** **VCB-** Make- M/s ABB Ltd Sl .NO 1VYNO20217001192 Rating -36KV ,1250A,31.5 KA	-----	**Generator:-** Make- M/s GE Sl No- 6024374 Rating- 2.3 MW **Transformer:-** Make- M/s Kamath Sl No- 17KT33P051SC/102 Rating- 2.5 MVA **Compact Substation:-** **VCB-** Make- M/s ABB Ltd Sl .NO 1VYNO20217001192

S.NO	Details of the Equipment	Existing Load Particulars	Additional Load Particulars	Deleted Load Particulars	Total Load Particulars
			Current transformer (CT) SI.NO -001634, 001631, 001635 Rating :- 200/5A **Potential Transformer (PT)** SI.NO- 000635 Rating 3300/√3/110V		Rating -36KV ,1250A,31.5 KA **Current transformer (CT)** SI.NO -001634, 001631, 001635 Rating :- 200/5A **Potential Transformer (PT)** SI.NO- 000635 Rating 3300/√3/110V
4	Location - BRG 558	-----	**Generator:-** Make- M/s GE Sl No- 6024504 Rating- 2.3 MW **Transformer:-** Make- M/s Kamath Sl No- 17KT33P051SC/100 Rating- 2.5 MVA **Compact Substation:-** **VCB-** Make- M/s ABB Ltd SI .NO 1VYNO20217001193 Rating -36KV ,1250A,31.5 KA **Current transformer (CT)** SI.NO -001627, 001630, 001636 Rating :- 200/5A **Potential Transformer (PT)** SI.NO- 000640 Rating 3300/√3/110V	-----	**Generator:-** Make- M/s GE Sl No- 6024504 Rating- 2.3 MW **Transformer:-** Make- M/s Kamath Sl No- 17KT33P051SC/100 Rating- 2.5 MVA **Compact Substation:-** **VCB-** Make- M/s ABB Ltd SI .NO 1VYNO20217001193 Rating -36KV ,1250A,31.5 KA **Current transformer (CT)** SI.NO -001627, 001630, 001636 Rating :- 200/5A **Potential Transformer (PT)** SI.NO- 000640 Rating 3300/√3/110V

S.NO	Details of the Equipment	Existing Load Particulars	Additional Load Particulars	Deleted Load Particulars	Total Load Particulars
5	Location - BRG 559	-----	**Generator:-** Make- M/s GE Sl No- 6024500 Rating- 2.3 MW **Transformer:-** Make- M/s Kamath Sl No- 17KT33P051SC/101 Rating- 2.5 MVA **Compact Substation:-** **VCB-** Make- M/s ABB Ltd SI .NO 1VYNO20217001208 Rating -36KV ,1250A,31.5 KA **Current transformer (CT)** SI.NO -001628, 001629, 001641 Rating :- 200/5A **Potential Transformer (PT)** SI.NO- 000639 Rating 3300/√3/110V	-----	**Generator:-** Make- M/s GE Sl No- 6024500 Rating- 2.3 MW **Transformer:-** Make- M/s Kamath Sl No- 17KT33P051SC/101 Rating- 2.5 MVA **Compact Substation:-** **VCB-** Make- M/s ABB Ltd SI .NO 1VYNO20217001208 Rating -36KV ,1250A,31.5 KA **Current transformer (CT)** SI.NO -001628, 001629, 001641 Rating :- 200/5A **Potential Transformer (PT)** SI.NO- 000639 Rating 3300/√3/110V
6	Feeder 1	**VCB Yard–** **VCB** Make- M/s ABB. Sl No- 1VYN030216001931 Rating- 36KV,800A,25KA **Current Transformer (CT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 20362,20363,20364. Rating- 300-150/1-1A **Potential Transformer(PT)-** Sl No- 8474,8475,8476. Rating- 33000/√3/110V	-----	-----	**VCB Yard–** **VCB** Make- M/s ABB. Sl No- 1VYN030216001931 Rating- 36KV,800A,25KA **Current Transformer (CT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 20362,20363,20364. Rating- 300-150/1-1A **Potential Transformer(PT)-** Sl No- 8474,8475,8476. Rating- 33000/√3/110V

S.NO	Details of the Equipment	Existing Load Particulars	Additional Load Particulars	Deleted Load Particulars	Total Load Particulars
7	Metering and Protection Yard At 33/11kV SS	**VCB Yard–** **VCB** Make- M/s ABB. Sl No- 1VYN030216001932 Rating- 36KV,800A,25KA **Current Transformer (CT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 20359, 20360, 20361 Rating- 300-150/1-1A **Potential Transformer(PT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 8477.8478,8479. Rating- 33000/√3/110V **Metering Current Transformer (CT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 20353 to 20358 Rating- 200/1A **Metering Potential Transformer(PT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 8462 to 8467. Rating- 33000/√3/110V	-----	-----	**VCB Yard–** **VCB** Make- M/s ABB. Sl No- 1VYN030216001932 Rating- 36KV,800A,25KA **Current Transformer (CT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 20359, 20360, 20361 Rating- 300-150/1-1A **Potential Transformer(PT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 8477.8478,8479. Rating- 33000/√3/110V **Metering Current Transformer (CT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 20353 to 20358 Rating- 200/1A **Metering Potential Transformer(PT)-** Make : Vidyuth Control Systems Pvt Ltd Sl No- 8462 to 8467. Rating- 33000/√3/110V
8	33 KV Line	-----	03 KM Dog Conductor	-----	03 KM Dog Conductor

Director of Electrical Safety and
Chief Electrical Inspector to Govt(FAC)

102090

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Fax No : 080-22292204
Phone No: 080-22210416

Office of the
Chief Engineer (Ele)
(Planning & Coordination)
2nd Floor, KPTCL,
Kaveri Bhavan,
Bangalore –560009.

No: CEE (P&C)/ SEE (Plg)/EE (PSS)/KCO-96/16011/F-603 Date: -07-2014

4515-4531 25 JUL 2014

To,
M/s Mytrah Vayu (Krishna) Pvt Ltd,
8001, Q-City, S.No:109,
Nanakramguda, Gachibowli,
Hydrabad-500032,
India.

Sir,

Sub: Regular interconnection/synchronization approval for Additional capacity of **16.15MW** WTG (1.7MW out of already transferred capacity of 82.45MW & 14.45MW out of newest transferred capacity of 17.85MW) capacity of wind power project at Bijapur district from 100.3MW total wind allotted capacity to M/s G M Navara transferred to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL) reg

Ref: 1) Your request letter no: MVKPL /82.45MW & 17.85MW /IC/16.15MW /CEE /KPTCL /2014-15 dated: 10.7.2014

2) Revised Evacuation scheme communicated vide T.O. letter dated: 17.1.2013

3) Regular interconnection for the **70.55MW (56.95MW + 13.6MW)** WTGs out of **82.45MW** of transferred capacity was communicated vide T.O. letter no: 4057-073 dated: 15.7.2014 beyond 23.8.2014

4) G.O. no: EN 104 NCE 2014, Bangalore dated: 9.6.2014 for transferring balance 17.85MW to M/s MVKPL out of 100.3MW of M/s G.M.Navarra

5) PPA executed with BESCOM on 30.6.2014 for the transferred capacity of 17.85MW

6) CEIG approval for 0.85MW out of balance 4.25MW from total 16.15MW vide letter no: CEIG/ACEI/EI-1/AEI-3/BJP-328D/9529-34 dated: 9.7.2014

7) CEIG approval for 0.85MW out of balance 2.55MW from total 17MW vide letter no: CEIG/ACEI/EI-1/AEI-3/BJP-328G/9517-22 dated: 9.7.2014

8) CEIG approval for 14.45MW out of total 17.85MW vide letter no: CEIG /ACEI /EI-1 /AEI-3 /BJP-328H /9523-28 dated: 9.7.2014

9) PC test conducted by AEE / HT Rating / HESCOM / Bijapur vide letter no: 54-55 dated: 3.7.2014 for 17.85MW

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Anent to your request for synchronizing additional capacity of 16.15MW WTG, I am directed to communicate Regular interconnection approval for additional **16.15 MWs** WTGs, (**1.7MW** out of already transferred capacity of **82.45MW** & **14.45MW** out of newest transferred capacity of **17.85MW**) capacity of wind power project at Bijapur district from **100.3MW** total wind allotted capacity to M/s G M Navara transferred to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL) to inter connect following Customer firm installations with capacity & locations mentioned against them, on connectivity of 220 kV SC line with KPTCL grid in accordance with the approved evacuation scheme, drawings and standard conditions.

Sl. No	Name of the Firm	Capacity	Locations
1	M/S. Mytrah Vayu (Krishna)) Pvt Ltd.	2x0.85 MW= **1.7** MW out of 82.45 MW transferred capacity	MVKPL- Feeder 2-(8) MVKPL-Feeder-3 (5)
2	M/S. Mytrah Vayu (Krishna)) Pvt Ltd.	17x0.85 MW= **14.45** MW out of 17.85 MW newly transferred capacity	MVKPL- Feeder 6-(1 to 10 & 12 to 15 & 17 & 19)
Total		**16.15 MW & totaling interconnection capacity to 86.7 MW out of to transferred capacity of 100.3 MW & approved 100.3 MW W**	

Other general conditions to be fulfilled by the firm for regular inter connection :

01) ABT featured tariff meter with Independent SCADA Operational arrangement for recording 100.3 MW at 220 kV level should be at 220/110 kV Indi S/S as per KPTCL Technical specifications.

02) As per your undertaking letter dated 22/03/2014 you (transferee) have to pay regular O&M expenses @1.5% of the capital cost of infrastructure with 12% escalation every year as per circular guide lines dated 17/8/2012

03) For any capacity addition for generation to export beyond 86.7 MWs, you have to take

interconnection approval from KPTCL & at any point of time export capacity should not exceed 86.7 MW failing to this, installation will be desynchronized with grid without any notice.

04) It is to be noted that, pumping of power without any contractual agreement is not permitted & for any claim for payments and consequences in this regard KPTCL/ESCOM is not responsible. You should obtain prior approval of SLDC for injection of power to the grid.

05) As declared by the firm, M/s Mytrah Vayu (Krishna) Pvt Ltd &, M/s. Bindu Urja infra-structure Ltd are companies under same management. M/s. Bindu Urja infra-structure Ltd , is SPV for Providing infrastructure for all Group Companies, for facilitating EHV Lines, Sub-Stations and roads and furnished CEIG approval for pooling Station for Savalsung Project in favour of M/s. Bindu Urja infra-structure Ltd instead of M/s. G.M. Navarra Wind Energy Pvt Ltd. In this regard KPTCL will not take any responsibility in case of any disputes arises between these Developer/firms/Customer installations regarding utilization of infra-structure facility as maintenance of interconnection facilities, Receiving station, including the dedicated transmission line beyond receiving station as per specifications & requirement of Corporation/BESCOM has vested with you at your cost as per PPA conditions.

06) As per your undertaking letter dated 22/3/2014 that, you have constructed all the electrical infrastructure such as 220 kV Transmission line, S/s & 33 kV internal line in private lands & in case if any dispute raised by concerned regarding construction of Sub-station, 220 kV transmission & 33 kV internal line in any of the reserved forest area you will sort out the issues at your cost without holding KPTCL responsible.

07) Regular Interconnection of proposed additional 16.15 MW & totaling interconnection capacity to 86.7 MW out of 100.3 MW transferred capacity & 100.3 MW total approved capacity for the first time should be done in presence of the concerned Executive Engineer El., RT KPTCL, the Executive Engineer El, TL&SS KPTCL of the area and Executive Engineer El., O&M Division of ESCOM.

08) Procedure for line clear authorized persons etc, if required has to be discussed and finalized between Executive Engineer El. TL&SS, EE O & M Division and firm's representative before interconnection.

09) The Executive Engineer El., TL&SS of the area along with Executive Engineer El., O&M Division, of concerned ESCOM has to take meter reading of meters of wind farms

and Bulk supply meters initially before commissioning and all meters of individual wind farms and bulk meters every month as per the standard procedure in such cases.

10) All equipments installed, Bay(s) constructed and metering arrangements shall be SCADA Operational and shall be able to integrate with KPTCL system.

11) You are required to back down your generation as per the instructions of KPTCL in the event of line outages/Grid constraints etc. Further as per your undertaking letter dated 22/03/2014, KPTCL will not take any responsibility for loss of generation due to line outages/ Grid Constraints.

12) Granting regular inter connection approval for additional 16.15 MW capacity & totaling interconnection approval to 86.7 MW out of transferred 100.3 MW & approved 100.3 MW project shall not be construed to mean that requirements of all other laws are fulfilled by you. It is you who shall be responsible for compliance of all statutory requirements/approvals under other laws and for any non-compliance, you alone shall be responsible and KPTCL shall not be liable for any action whatsoever in this regard.

13) The field staff should ensure that the evacuation work is completed as per KPTCL standards and technical specifications and firm shall availed all statutory approvals required for provisional inter connection.

This regular Interconnection approval will only provide technical connectivity of the subject installations with KPTCL grid for synchronization.

Yours faithfully,

25/7/14

Chief Engineer (Ele)
(Planning & Co-ordination)

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Fax No : 080-22292204
Phone No: 080-22210416

Office of the
Chief Engineer (Ele)
(Planning & Coordination)
2nd Floor, KPTCL,
Kaveri Bhavan,
Bangalore –560009.

No: CEE (P&C)/ SEE (Plg)/EE (PSS)/KCO-96/16011/F-603 Date: -07-2014

4057-4073

15 JUL 2014

To,
M/s Mytrah Vayu (Krishna) Pvt Ltd,
8001,Q-City, S.No:109,
Nanakramguda, Gachibowli,
Hydrabad-500032, India.

Sir,

Sub: Regular interconnection approval for **70.55MW** capacity of wind power project at Bijapur district out of **82.45MW** transferred capacity to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL) from total allotted capacity of **100.3MW** to M/s G M Navara reg

Ref: 1) Your request letter no: MVKPL /82.45MW /IC-70.55MW /1X100MVA /CEE /KPTCL /2014-15 dated: 13.6.2014

2) Revised Evacuation scheme communicated vide T.O. letter dated: 17.1.2013

3) Provisional interconnection for the **56.95MW** WTGs out of **82.45MW** of transferred capacity was communicated vide T.O. letter no: 790-805 dated: 24.4.2014 with validity **up to 4 months**

4) Provisional interconnection for the **13.6MW** WTGs out of **82.45MW** of transferred capacity was communicated vide T.O. letter no: 2407-22 dated: 31.5.2014 with validity **up to 23.8.2014**

5) T.O. note approved dated: 28.6.2014

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Adverting to your request letter cited in ref (1), wherein you have substantiated for the sufficiency of (single) 1X100MVA transformer for evacuation of 100.3MW wind power instead of 2X100MVA transformers as notified in the CEIG approval letter dated: 12.2.2014, I am directed to communicate regular interconnection approval for existing provisionally interconnected **70.55MW (56.95MW + 13.6MW)** WTGs capacity out of **82.45MW** transferred capacity to you from total allotted capacity of **100.3MW** from M/s G M Navara of wind power project at Bijapur district beyond **23.8.2014** for the following locations:

Sl. No	Name of the Firm	Capacity	Locations
1	M/S. Mytrah Vayu (Krishna) Pvt Ltd.	67x0.85 MW= **56.95 MW** out of 82.45 MW transferred capacity	MVKPL- Feeder 1- (3,6,7, 8,9, 10 ,11, 12,13 ,14&15 (9.35 MW) MVKPL-Feeder2- 1,2,3,4,5,6,7,9,10,11,12,13,15,17,18,19,20 (14.45MW) MVKPL-Feeder-3 (2,3,4,10,13,14,15,16,17&19(8.5MW) MVKPL-Feeder-4 (2,3,4,5,7,8,10,11,12,13,14,15,18,19,20&21(13.6MW) MVKPL-Feeder-5 (1,2,3,4,5,6,7,8,9,10,11,12,13(11.05MW)
2	M/S. Mytrah Vayu (Krishna) Pvt Ltd.	16x0.85 MW= **13.6 MW** out of 82.45 MW transferred capacity	MVKPL- Feeder 1-(4&5) MVKPL-Feeder-3 (1,8,9&18) MVKPL-Feeder-4(1,6,9,16&17) MVKPL-Feeder-5(14,15,16,17 &18)
Total		**56.95MW + 13.6MW = 70.55MW out of transferred 82.45 MW against Approved capacity of 100.3 MW WPP**	

All the other terms & conditions stipulated in the provisional interconnection approval for 56.95MW & 13.6MW cited in ref (3 & 4) respectively remain unaltered. It may please be noted that, you alone are responsible for any consequences that may arise owing to providing single 1X100MVA transformer at your pooling station. All the safety precautions shall be ensured to maintain the KPTCL grid security.

Yours faithfully,

Chief Engineer (Ele)
(Planning & Co-ordination)

Copy for kind information to:

1. The Managing Director, HESCOM, **HUBLI.**

Copy for information and needful to:

2. The Chief Engineer Elect, KPTCL, SLDC, **Bangalore.**
3. The Chief Engineer Elect, KPTCL, Transmission Zone, **BAGALKOT.**
4. The Chief Engineer Elect,(TA &QC), KPTCL, Kaveri Bhavan, **Bangalore.**
5. The Superintending Engineer Elect, Technical, KPTCL, Kaveri Bhavan, **Bangalore.**

6. The Superintending Engineer Elect, KPTCL, Transmission W & M Circle, **Bagalkot.**
7. The Additional Director, PCKL, GOK, Kaveri Bhavan, **Bangalore.**
8. The Superintending Engineer Elect, KPTCL, RT Circle, **HUBLI.**
9. The Superintending Engineer Elect, SCADA, KPTCL, Anand Rao Circle, **Bangalore.**
10. The DGM (Tech), Kaveri Bhavan, Bangalore
11. The Executive Engineer Elect, KPTCL, RT Division, **Belgaum.**
12. The Executive Engineer Elect, KPTCL, MWD, KPTCL, **Bijapur**
13. The Executive Engineer Elect, KPTCL, TL & SS Division **Bijapur.**
14. The Executive Engineer Elect, O & M division HESCOM, **Indi.**
15. EA to DT with request to place before DT, KPTCL, **Bangalore.**
16. M/s GM Navarra Wind Energy Pvt Ltd,#103, 1st Floor, Prestige Poseidon,139, Residency Road, **Bangalore.**
17. O/c to file.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Fax No : 080-22292204
Phone No: 080-22210416

Office of the
Chief Engineer (Ele)
(Planning & Coordination)
2nd Floor, KPTCL,
Kaveri Bhavan,
Bengaluru –560009

No: CEE (P&C)/ SEE (Plg)/EE (PSS)/KCO-96/16011/F-603 9308-9323 Date: -11-2014

21 NOV 2014

To,
M/s Mytrah Vayu (Krishna) Pvt Ltd,
8001, Q-City, S.No:109,
Nanakramguda, Gachibowli,
Hydrabad-500032,
India.

Sir,

Sub: Regular interconnection/synchronization approval for additional capacity of 4.25MW (3.4MW out of already transferred capacity of 82.45MW & 0.85MW out of newest transferred capacity of 17.85MW) capacity of wind power project at Vijayapura district from 100.3MW total wind allotted capacity to M/s G M Navara transferred to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL) reg

Ref: 1) MVKPL customer firm letter no: MVKPL /82.45MW & 17.85MW /IC/4.25MW /CEE /KPTCL /2014-15 dated: 14.10.2014.

2) Revised Evacuation scheme communicated vide T.O. letter dated: 17.1.2013

3) Regular interconnection for the **70.55MW (56.95MW + 13.6MW)** WTGs out of **82.45MW** of transferred capacity was communicated vide T.O. letter no: 4057-073 dated: 15.7.2014 beyond 23.8.2014.

4) Regular interconnection for the **16.15** WTGs out of **100.3MW** of transferred capacity was communicated vide T.O. letter no: 4515-31 dated: 25.7.2014.

5) G.O. no: EN 104 NCE 2014, Bangalore dated: 9.6.2014 for transferring balance 17.85MW to M/s MVKPL out of 100.3MW of M/s G.M.Navarra

6) PPA executed with BESCOM on 30.6.2014 for the transferred capacity of 17.85MW.

7) CEIG approval for 0.85MW out of balance 2.55MW from total 16.15MW vide letter no: CEIG/ACEI/EI-1/AEI-3/BJP-328F/13513-18/14-15 dated: 18.8.2014.

8) CEIG approval for 0.85MW out of balance 1.7MW from total 17MW

vide letter no: CEIG/ACEI/EI-1/AEI-3/BJP-328G/19634-39/13-14 dated: 9.10.2014.

9) CEIG approval for 1.7MW out of balance 2.55MW from total 16.15MW vide letter no: CEIG /ACEI /EI-1 /AEI-3 /BJP-328F /19646-51/14-15 dated: 9.10.2014

10) CEIG approval for 0.85MW out of balance 3.4MW from total 17.85MW vide letter no: CEIG /ACEI /EI-1 /AEI-3 /BJP-328H /19640-45/14-15 dated: 9.10.2014

11) PC test conducted by AEE / HT Rating / HESCOM / Bijapur vide letter no: 54-55 dated: 3.7.2014 for 17.85MW

12) SLD approved by Technical wing for 17.85MW for G.O. cited in ref (5) vide T.O. letter no: 3254-61 dated: 18.6.2014.

13) M/s GM Navarra Wind Energy Pvt Ltd letter no: GMN/82.45MW & 17.85MW/IC/16.15MW/CEE/KPTCL/2014-15 dated: 10.10.2014 received at T.O. on 23.10.2014.

14) T.O. note approved dated: 15.11.2014.

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Anent to your request for synchronizing additional capacity of 4.25MW WTG, I am directed to communicate Regular interconnection approval for additional **4.25 MWs** WTGs, **(3.4MW** out of already transferred capacity of 82.45MW & **0.85MW** out of newest transferred capacity of 17.85MW) capacity of wind power project at Vijayapura district from **100.3MW** total wind allotted capacity to M/s G M Navara transferred to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL) to inter connect following Customer firm installations with capacity & locations mentioned against them, on connectivity of 220 kV SC line with KPTCL grid in accordance with the approved evacuation scheme, drawings and standard conditions.

Sl. No	Name of the Firm	Capacity	Locations
1	M/S. Mytrah Vayu (Krishna)) Pvt Ltd.	4x0.85 MW= 3.4 MW out of 82.45 MW transferred capacity	MVKPL- Feeder 2-(14) MVKPL-Feeder-3 (6 & 7, 11)

2	M/S. Mytrah Vayu (Krishna)) Pvt Ltd.	1x0.85 MW= **0.85** MW out of 17.85 MW newly transferred capacity	MVKPL- Feeder 6-11
Total		**4.25 MW & totaling interconnection capacity to 90.95 MW out of total transferred capacity of 100.3 MW & approved 100.3 MW WPP**	

Other general conditions to be fulfilled by the firm for regular inter connection:

01) ABT featured tariff meter with Independent SCADA Operational arrangement for recording 100.3 MW at 220 kV level should be at 220/110 kV Indi S/S as per KPTCL Technical specifications.

02) As per your undertaking letter dated 22/03/2014 you (transferee) have to pay regular O&M expenses @1.5% of the capital cost of infrastructure with 12% escalation every year as per circular guide lines dated 17/8/2012

03) For any capacity addition for generation to export beyond 90.95 MWs, you have to take interconnection approval from KPTCL & at any point of time export capacity should not exceed 90.95 MW failing to this, installation will be desynchronized with grid without any notice.

04) It is to be noted that, pumping of power without any contractual agreement is not permitted & for any claim for payments and consequences in this regard KPTCL/ESCOM is not responsible. You should obtain prior approval of SLDC for injection of power to the grid.

05) As declared by the firm, M/s Mytrah Vayu (Krishna) Pvt Ltd &, M/s. Bindu Urja infra-structure Ltd are companies under same management. M/s. Bindu Urja infra-structure Ltd , is SPV for Providing infrastructure for all Group Companies, for facilitating EHV Lines, Sub-Stations and roads and furnished CEIG approval for pooling Station for Savalsung Project in favour of M/s. Bindu Urja infra-structure Ltd instead of M/s. G.M. Navarra Wind Energy Pvt Ltd. In this regard KPTCL will not take any responsibility in case of any disputes arises between these Developer/firms/Customer installations regarding utilization of infra-structure facility as maintenance of interconnection

facilities, Receiving station, including the dedicated transmission line beyond receiving station as per specifications & requirement of Corporation/BESCOM has vested with you at your cost as per PPA conditions.

06) As per your undertaking letter dated 22/3/2014 that, you have constructed all the electrical infrastructure such as 220 kV Transmission line, S/s & 33 kV internal line in private lands & in case if any dispute raised by concerned regarding construction of Sub-station, 220 kV transmission & 33 kV internal line in any of the reserved forest area you will sort out the issues at your cost without holding KPTCL responsible.

07) Regular Interconnection of proposed additional 4.25 MW & totaling interconnection capacity to 90.95 MW out of 100.3 MW transferred capacity & 100.3 MW total approved capacity for the first time should be done in presence of the concerned Executive Engineer El., RT KPTCL, the Executive Engineer El, TL&SS KPTCL of the area and Executive Engineer El., O&M Division of ESCOM.

08) Procedure for line clear authorized persons etc, if required has to be discussed and finalized between Executive Engineer El. TL&SS, EE O & M Division and firm's representative before interconnection.

09) The Executive Engineer El., TL&SS of the area along with Executive Engineer El., O&M Division, of concerned ESCOM has to take meter reading of meters of wind farms and Bulk supply meters initially before commissioning and all meters of individual wind farms and bulk meters every month as per the standard procedure in such cases.

10) All equipments installed, Bay(s) constructed and metering arrangements shall be SCADA Operational and shall be able to integrate with KPTCL system.

11) You are required to back down your generation as per the instructions of KPTCL in the event of line outages/Grid constraints etc. Further as per your undertaking letter dated 22/03/2014, KPTCL will not take any responsibility for loss of generation due to line outages/ Grid Constraints.

12) Granting regular inter connection approval for additional 4.25 MW capacity & totaling interconnection approval to 90.95 MW out of transferred 100.3 MW & approved 100.3 MW project shall not be construed to mean that requirements of all other laws are fulfilled by you. It is you who shall be responsible for compliance of all statutory requirements/approvals under other laws and for any non-compliance, you alone shall be responsible and KPTCL shall not be liable for any action whatsoever in this regard.

13) The field staff should ensure that the evacuation work is completed as per KPTCL standards and technical specifications and firm shall availed all statutory approvals required for provisional inter connection.

This regular Interconnection approval will only provide technical connectivity of the subject installations with KPTCL grid for synchronization.

Yours faithfully,

Chief Engineer (Ele)
(Planning & Co-ordination)

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

Fax No : 080-22292204
Phone No: 080-22210416

Office of the
Chief Engineer (Elc)
(Planning & Coordination)
2nd Floor, KPTCL,
Kaveri Bhavan,
Bengaluru –560009

No: CEE (P&C)/ SEE (Plg)/EE (PSS)/KCO-96/16011/F-603 Date: -1-2015

13460-13475 22 JAN 2015

To,
M/s Mytrah Vayu (Krishna) Pvt Ltd,
8001, Q-City, S.No:109,
Nanakramguda, Gachibowli,
Hydrabad-500032,

Sir,

Sub: Regular interconnection/synchronization approval for additional capacity of 4.25MW (1.7MW out of already transferred capacity of 82.45MW & 2.55 MW out of newest transferred capacity of 17.85MW) capacity of wind power project at Vijayapura district from 100.3MW total wind allotted capacity to M/s G M Navara transferred to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL)- reg

Ref: 1) MVKPL customer firm letter no: MVKPL /82.45MW & 17.85MW /IC/ 4.25MW / CEE /KPTCL /2014-15 dated: 29.12.2014.

2) Developer Consent Letter No: GMN/82.45MW &17.85MW/ IC/4.25MW/ CEE/KPTCL/2014-15 dated 22/12/2014

3) Revised Evacuation scheme communicated vide T.O. letter dated: 17.1.2013

4) G.O. no: EN 104 NCE 2014, Bangalore dated: 9.6.2014 for transferring balance 17.85MW to M/s MVKPL out of 100.3MW of M/s G.M.Navarra

5) PPA executed with BESCOM on 30.6.2014 for the transferred capacity of 17.85MW.

6) CEIG approval for 1.7MW out of balance 1.7 MW from total 82.45 MW Vide letter no: CEIG/ACEI/EI-1/AEI-3/BJP-328G/27911-17/14-15 dated: 22.12.2014& CEIG/ACEI/EI-1/AEI-3/BJP-328F/27905-10/14-15 dated: 22.12.2014.

7) CEIG approval for 2.55MW out of balance 2.55MW from total 17.85MW vide letter no: CEIG/ACEI/EI-1/AEI-3/BJP-328H/27899-904/14-15 dated: 22.12.2014.

8) PC test conducted by AEE / HT Rating / HESCOM / Bijapur vide letter no:

54-55 dated: 3.7.2014 for 17.85MW

9) SLD approved by Technical wing for 17.85MW for G.O. cited in ref (5) vide T.O. letter no: 3254-61 dated: 18.6.2014.

10) T.O. note approved dated: 16.1.2015.

****

Anent to your request for synchronizing additional capacity of 4.25MW WTG, I am directed to communicate Regular interconnection approval for additional **4.25 MWs** WTGs, (**1.7MW** out of already transferred capacity of 82.45MW & **2.55MW** out of newest transferred capacity of 17.85MW) capacity of wind power project at Vijayapura district from **100.3MW** total wind allotted capacity to M/s G M Navara transferred to M/s Mytrah Vayu (Krishna) Pvt Ltd (MVKPL) to inter connect following Customer firm installations with capacity & locations mentioned against them, on connectivity of 220 kV SC line with KPTCL grid in accordance with the approved evacuation scheme, drawings and standard conditions.

Sl. No	Name of the Firm	Capacity	Locations
1	M/S. Mytrah Vayu (Krishna)) Pvt Ltd.	2x0.85 MW= **1.7** MW out of 82.45 MW transferred capacity	MVKPL- Feeder 2-(16) MVKPL-Feeder-3 (12)
2	M/S. Mytrah Vayu (Krishna)) Pvt Ltd.	3x0.85 MW= **2.55** MW out of 17.85 MW newly transferred capacity	MVKPL- Feeder 6-(16,20&21)
Total		**4.25 MW & totaling interconnection capacity to 95.2 MW out of total transferred capacity of 100.3 MW & approved 100.3 MW WPP**	

Other general conditions to be fulfilled by the firm for regular inter connection:

01) ABT featured tariff meter with Independent SCADA Operational arrangement for recording 100.3 MW at 220 kV level should be at 220/110 kV Indi S/S as per KPTCL Technical specifications.

02) As per your undertaking letter dated 22/03/2014 you (transferee) have to pay regular O&M expenses @1.5% of the capital cost of infrastructure with 12% escalation every

year as per circular guide lines dated 17/8/2012

03) For any capacity addition for generation to export beyond 95.2 MWs, you have to take interconnection approval from KPTCL & at any point of time export capacity should not exceed 95.2 MW failing to this, installation will be desynchronized with grid without any notice.

04) It is to be noted that, pumping of power without any contractual agreement is not permitted & for any claim for payments and consequences in this regard KPTCL/ESCOM is not responsible. You should obtain prior approval of SLDC for injection of power to the grid.

05) As declared by the firm, M/s Mytrah Vayu (Krishna) Pvt Ltd &, M/s. Bindu Urja infra-structure Ltd are companies under same management. M/s. Bindu Urja infra-structure Ltd , is SPV for Providing infrastructure for all Group Companies, for facilitating EHV Lines, Sub-Stations and roads and furnished CEIG approval for pooling Station for Savalsung Project in favour of M/s. Bindu Urja infra-structure Ltd instead of M/s. G.M. Navarra Wind Energy Pvt Ltd. In this regard KPTCL will not take any responsibility in case of any disputes arises between these Developer/firms/Customer installations regarding utilization of infra-structure facility as maintenance of interconnection facilities, Receiving station, including the dedicated transmission line beyond receiving station as per specifications & requirement of Corporation/BESCOM has vested with you at your cost as per PPA conditions.

06) As per your undertaking letter dated 22/3/2014 that, you have constructed all the electrical infrastructure such as 220 kV Transmission line, S/s & 33 kV internal line in private lands & in case if any dispute raised by concerned regarding construction of Sub-station, 220 kV transmission & 33 kV internal line in any of the reserved forest area you will sort out the issues at your cost without holding KPTCL responsible.

07) Regular Interconnection of proposed additional 4.25 MW & totaling interconnection capacity to 95.2 MW out of 100.3 MW transferred capacity & 100.3 MW total approved capacity for the first time should be done in presence of the concerned Executive Engineer El., RT KPTCL., the Executive Engineer El, TL&SS KPTCL of the area and Executive Engineer El., O&M Division of ESCOM.

08) Procedure for line clear authorized persons etc, if required has to be discussed and finalized between Executive Engineer El. TL&SS, EE O & M Division and firm's representative before interconnection.

09) The Executive Engineer El., TL&SS of the area along with Executive Engineer El., O&M Division, of concerned HESCOM has to take meter reading of meters of wind farms and Bulk supply meters initially before commissioning and all meters of individual wind farms and bulk meters every month as per the standard procedure in such cases.

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This regular Interconnection approval will only provide technical connectivity of the subject installations with KPTCL grid for synchronization.

Yours faithfully,

Chief Engineer (Ele)
(Planning & Co-ordination)

Copy for kind information to:

1. The Managing Director, HESCOM, **HUBBALLI.**

Copy for information and needful to:

2. The Chief Engineer Elect, KPTCL, SLDC, **Bengaluru.**
3. The Chief Engineer Elect, KPTCL, Transmission Zone, **BAGALKOT.**
4. The Chief Engineer Elect,(TA &QC), KPTCL, Kaveri Bhavan, **Bengaluru**

5. The Superintending Engineer Elect, Technical, KPTCL, Kaveri-Bhavan, **Bengaluru**
   The Superintending Engineer Elect, KPTCL, Transmission W & M Circle, **Bagalkot.**
6. The Additional Director, PCKL, GOK, Kaveri Bhavan, **Bengaluru**
7. The Superintending Engineer Elect, KPTCL, RT Circle, **HUBBALLI.**
8. The Superintending Engineer Elect, SCADA, KPTCL, Anand Rao Circle, **Bengaluru**
9. The DGM (Tech), KPTCL Kaveri Bhavan, **Bengaluru**
10. The Executive Engineer Elect, KPTCL, RT Division, **Belagavi.**
11. The Executive Engineer Elect, KPTCL, MWD, KPTCL, **Vijayapura**
12. The Executive Engineer Elect, KPTCL, TL & SS Division **Vijayapura**
13. The Executive Engineer Elect, O & M division HESCOM, **Indi.**
14. EA to DT with request to place before DT, KPTCL, **Bengaluru**
15. M/s GM Navarra Wind Energy Pvt Ltd, #103, 1st Floor, Prestige Poseidon,139, Residency Road, **Bengaluru**
16. O/c / MF to file.

MYTRAH

CARCASS MONITORING REPORT

IMS

Format Number	MEIPL/QSHE/Format-71/Carcass Monitoring/2018/01
Format Title	Carcass MONITORING REPORT
Format Revision	00

Name of the Project	SAVALSANG WIND SITE.
Season (Breeding/ Non-breeding/ Migrating)	MIGRATORY SEASON
Name of the reporting officer & Designation	Mr. SADANAND PATIL.
Construction/ Operational Phase	Operation phase

Date	Location/ Area	Nearest WTG area	Species (Latin name)/ Common Name	GPS Location	Condition (Injured/ Dead)	Remarks (Enclose Photographs)
NO Carcass observed / Reported during the said period near WTGs,						

MYTRAH VAYU (KRISHNA) PVT. LTD. VIJAYAPUR 586103.

29/8/2019

Gamesa Renewable Power Pvt. Ltd. Siemens SAVALSUNG

29/8/2019

MYTRAH

Environmental and Social Management System

Final Copy : Version 01

August 2017


MYTRAH

Version Control Sheet

Version No.	Date	Reference Document No. (Change/ Updating justification)
00	05.06.2012	18413/0144370 by ERM India Private Limited
01	30.07.2016	July 2016 by MEIPL after incorporation of Solar Business
01	31.08.2016	August 2016 by MEIPL as Final copy

Note: ESMS manual is owned by Mytrah Energy India Private limited (MEIPL). No part of this Manual should be photocopied or otherwise reproduced without the prior permission in writing from MEIPL

Contents

List of Annexures

Prelude

Mytrah Energy Limited (MEL) is based in Guernsey and is listed on the Alternate Investment Market (AIM) of the London Stock Exchange. Its wholly owned subsidiary, Mytrah Energy (India) Private Limited is one of the largest Renewable Power Producers in India. Mytrah's market knowledge, extensive relationships and expertise enabled it to build strong positions in the high-value, rapidly growing Indian energy market.

In continuation with generating Green Energy, Mytrah prides in its commitment towards fostering harmony between business, community and the environment. In addition to delivering our promise to all our stakeholders, we are conscious of the effect and impact of the operations of our Wind and Solar plants on the environment and people who work on them and live around them. The Company has implemented Integrated management system complying with ISO 9001, 14001, 18001 with good practices in favor of Quality, Environment, Health and Safety attributes.

Environmental and Social development initiative of Mytrah is a conscious effort towards aligning with millennium development goals as well as acquiescence of national/international best practices for stable growth. The proposed Environmental & Social Management System is a reflection of the approach we take towards building a sustainable long-term business - from the initial scope of a project through construction, operations and decommissioning of the project.

We believe that the most effective way to manage environmental issues is through the management, supported by functional experts where required. Our operating model therefore places the accountability for delivery of our Environmental & Social management system (ESMS) with the project manager during the design phase and with the site in charge during project execution,operation and decommissioning. We ensure strong Governance of our Environmental & Social Management System under the umbrella of Operations Management System, monitored through the Management Committee involving our senior management team.

The proposed Environmental & Social Management System (ESMS) should thus exemplify our conviction for adopting a structured and standardized approach towards managing our environment, health, safety impacts and accordingly, further reinforce our commitment towards our stakeholders and the society at large.

30.07.2016

Vikram Kailas
Vice Chairman & Managing Director

Executive Summary

Environmental & Social Management System (ESMS) is designed as a set of management processes and procedures, governed and monitored by Senior management at Corporate level, which will be implemented, analysed, controlled, managed at project and asset level (individual site) considering Environmental and Social impacts /risks of Mytrah's overall activities related with renewable power generation comprising of Wind, Solar and ancillary services.

Mytrah Energy Limited (MEL) is based in Guernsey and is listed on the Alternate Investment Market (AIM) of the London Stock Exchange. Its wholly owned subsidiary, Mytrah Energy (India) Private Limited (MEIPL) with its all Special Purpose Vehicles (SPVs) are collectively one of the largest wind based independent power producers in India. In Solar, company is already pursuing grid-connected solar photovoltaic power plant projects pan India and has a plan to make a leading portfolio as renewable power developer with a robust business plan.

Being sensitive to the environment, health and safety performance, the company is focused to cater the electricity needs for the Nation by supplying eco-friendly, safe power with a commitment of reduction of greenhouse emission locally, which ultimately creates a positive impact globally. The social and cultural responsibility has been one of the agenda point of the management to ensure that overall development of the organization helps in the social benefits, considering participatory model. Company has introduced integrated ISO Management system at Asset level at the Corporate as well as the existing Operational wind sites pan India for establishing a robust system under overall Operational management system.

This manual covers the Environmental, Health, Safety and Social requirements of Wind and Solar Plant throughout its life cycle, initiated/ implemented/supervised by M/s Mytrah Energy (India) Pvt. Limited (MEIPL) , wholly owned subsidiary of Mytrah Energy limited (MEL) and all Special Purpose Vehicles (SPVs), based on the national / international applicable standards and industry good practices , applicable in Wind and Solar Power Plant as recommended by the Asian Development Bank (ADB), International Finance Corporation (IFC), World Bank (WB) EHS Guidelines and applicable legal requirements of Host country.

It's a corporate commitment to ensure sustainability of the business and allows better monitoring and reporting control of assets with meaningful participation of applicable stakeholders at Corporate as well as Site level.

The proposed Environmental & Social Management System (ESMS) will define relevant standards and protocols under the umbrella of own corporate policies and commitments, which allow inter departmental coordination and stronger accountability to manage environmental, social risks and opportunities. This approach to manage environmental and social risks would be better and at right stage of the project by meaningful screening and categorization which will help for scrutiny on performance with better monitoring, auditing and reporting mechanism under direct supervision of senior management with an ultimate goal of sustainable development.

Section 1 provides a brief introduction to the ESMS manual with process and MEIPL's commitment to put in place adequate Environment, Safety, Health & Social management systems and protocols that will help to manage the EHS and Social risks arising from its activities across the life cycle of Wind and Solar Plant. This section also defines the purpose, its objectives and coverage, applicability and implementation as well as its limitations.

Sections 2, 3 and 4 provide an overview of the organization describing corporate background, policies and organizational level structure of M/s Mytrah Energy (India) Pvt. Limited (MEIPL), wholly owned subsidiary of Mytrah Energy limited (MEL) and all Special Purpose Vehicles (SPVs). The ESMS describes MEIPL's present and future operations, existing business arrangement and corporate models for project implementation, corporate policies for showcasing the company's commitment to EHS and sustainability, as well as the organizational structure to implement the same.

Section 5 delineates Wind and Solar project operations and their project components and activities. It highlights the key ESH&S risks at every stage in the life of a typical Wind and Solar project.

The document further proceeds to Section 6 which describes the reference framework (incorporating statutory and lender/ investor specific E&S requirements as applicable in Wind and Solar Project) that is applicable to MEIPL, its projects and operations. It is expected that this section will be aligned with MEIPL's existing integrated ISO management system (based on the scope) for developing a detailed legal register that will keep abreast of any developments in applicable regulations in ESMS.

Section 7 is the core section of the ESMS and provides detailed description of how EHS and Social issues are incorporated at every stage of project development, from screening to investment decision with a link to specific annexes that provide guidance and tools to implement the specific processes described.

Section 8 highlights the institutional structure and capacity for ESMS implementation at the corporate and site levels. It discusses the roles and responsibilities of the key personnel for implementing, maintaining, monitoring and reviewing the ESMS and indicates MEIPL's commitment to implementing the ESMS through an annual budget allocation to operationalize the ESMS.

Section 9, the final section of the document, discusses the monitoring and reporting aspects of this ESMS and includes performance monitoring of key indicators as well as reporting mechanisms for internal and external reporting, auditing and management review requirements.

Abbreviations

ADB	Asian Development Bank
ESPR	Environmental and Social Performance Report
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSR	Corporate Social Responsibility
DPR	Detailed Project Report
E&S	Environmental and Social
EC	Environment Clearance
EHS	Environment, Health & Safety
EHS&S	Environment Health & Safety and Social
EP	Equator Principles
EPC	Engineering, Procurement and Construction
ESAP	Environmental and Social Action Plan
ESDD	Environmental and Social Due Diligence
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental & Social Management System
GIIP	Good International Industry Practice
GRM	Grievance Redressal Mechanism
HR &FMS	Human Resources & Facility management Services
IFC	International Finance Corporation
ILO	International Labour Organization
IPP	Indigenous Peoples Plan
MEL	Mytrah Energy Limited
MEIPL	Mytrah Energy India Private Limited
MoEF & CC	Ministry of Environment and Forests & Climate Change
O&M	Operations and Management
OH&S	Occupational Health and Safety
OMS	Operations Management System
PESA	Panchayats Extension to Schedule Areas
PIAL	Prohibited Investment Activities List
PPE	Personal Protective Equipment
PS	Performance Standard
RoR	Register of Regulations
RP	Resettlement Plan
SPS	Safeguard Policy Statement
ToR	Terms of Reference
UN	United Nations
WTG	Wind Turbine Generators
EP	Equator Principles
EPC	Engineering, Procurement and Construction

1. Introduction

1.1 Purpose

This Environmental and Social Management System (ESMS) was designed by Mytrah Energy (India) Private Limited (MEIPL) and approved by Vice Chairman & Managing Director for the purpose of defining set standards, protocols and procedures, institutional and implementation arrangements at Project & Asset level with strong Governance through the designated Management Committee involving Senior Management at Corporate level.

The said ESMS proposes its directives for managing environmental and social risks and opportunities associated with MEIPL's / SPVs operations in the renewable energy sector; currently limited to Wind and Solar sectors, aligned with existing integrated management system comprising of quality, environment, health and safety aspect in line with ISO: 9001, ISO:14001, ISO:18001.

This ESMS establishes MEIPL's commitment to put in place adequate Environment & Social management systems and protocols for carrying out business in a more sustainable manner. This is in conformance with the broader corporate objective as already established in its QSHE policy.

The ESMS is benchmarked against national standards on Wind/Solar Industries directed by Host country and international appropriate standards like the International Financial Corporation (IFC) Performance Standards (PS), 2012 and the Asian Development Bank (ADB) Safeguard Policy Statement (SPS), 2009. MEIPL is committed to simultaneously fulfill the business objectives by remaining compliant to prevalent legal, statutory and regulatory requirements while gaining trust and respect of local stakeholders by remaining sensitive towards social norms and cultural values of the surroundings. Further more, the ESMS will undergo changes/upgrades, if required, to adopt evolving national/international standard/guidelines/principles and to incorporate in business diversification that MEIPL may intend in future.

1.2 ESMS Model & Components

ESMS process and actions to develop, implement and monitor Wind and Solar projects will pass through a scientific model to meet the Social as well as Environmental obligations. The concepts of ESMS is proposed on the principles of "Plan, Implementation, Check, Act", which is also used for existing integrated management system, comprising of ISO 9001, 14001, 18001 with a same principle of "Plan, Do, Check, Act'. The common approach for both the systems will help for building a strong base of ultimate Operations Management System, comprising of both ISO & ESMS system within a time scale of Management Plan and program towards a defined goal with continual improvement in a sustainable manner.

1.3 Goal of ESMS

Mytrah is keen for overall improvement of its environmental and social performances. Hence the prime goal for adopting this system is to minimize significant negative impact (if any) and comply with all applicable laws in host country as well as mutually agreed with all international norms, standards, principles, guidelines, relevant in renewable power business and ensure that communities welcome a Mytrah renewable power plant in their area.

The Environmental and Social Management System has been designed to address following goals;

- Supporting the continual improvement of overall performance in meeting regulatory and financial institution requirements
- Achieving the desired goal on Environmental, Health, Safety and Social Sustainability with systematic implementation at asset level considering the project life cycle
- Reflecting and facilitating Mytrah's broad commitment to Environment and Social excellence and stewardship
- Supporting integrated approach to manage Environment, Health, Safety and Social performance
- Operating assets through an Integrated Operations Management System which encompasses all applicable elements of Environment, Health, Safety and Social compliances

1.4 Objective & Coverage of ESMS

The key objectives of ESMS are as follows:

- Aligning MEIPL's existing Environment and Social (E&S) policies and management systems with identified ADB safeguards requirements as well as the IFC performance standards and the applicable statutory norms both at federal and state level for the renewable sector
- Providing a set of policies highlighting the company's commitment to manage EHS and Social issues through the life cycle of projects
- Establishing procedure, tools and guidelines for screening, categorization, due diligence, impact assessment, compliance monitoring and reporting
- Defining appropriate mitigation measures and management frameworks to guide project level mitigation and management plans to minimize adverse impacts from MEIPL's project and its activities
- Establishing information disclosure mechanism for communication of relevant environmental and social information to relevant stakeholders and especially to the impacted community
- Establishing an institutional arrangement and channeling of resources at the corporate as well as asset level for the successful implementation of the ESMS along with a commitment for training and capacity building of these internal resources
- Establishing a monitoring and auditing protocol for the successful and continual implementation of the ESMS

This ESMS establishes the corporate level commitments of MEIPL with implementation at project/asset level under the leadership of each project manager and site in-charge, who is supported by his team locally and by the functional experts in corporate to manage EHS and Social performance and Risk Management across all applicable levels of the company throughout the project lifecycle. Senior management will ensure strong governance of Environmental & Social Management System through appropriate management committee. These commitments will be adequately reflected in MEIPL's project, O&M level, operating procedures and work instructions that have been prepared as part of this document aligning with existing integrated ISO system.

1.5 Applicability & Implementation

This ESMS will be applicable for M/s Mytrah Energy (India) Pvt. Limited (MEIPL), wholly owned subsidiary of Mytrah Energy limited (MEL) and all Special Purpose Vehicles (SPVs) that carries its project & operations either directly or with the turnkey contractor and subcontractors across the life cycle of the project.

Furthermore, the implementation of this system is the responsibility of the ESMS committee (refer as Management Review Committee here). The ESMS functions directly under the governance of the senior management of MEIPL.

Turnkey contractors with whom MEIPL is engaging usually have long standing in this field and they are already established with acceptable system in terms of environment, management, health and safety. MEIPL is also ISO 9001,14001 and 18001 certified company. It is therefore advisable to integrate the existing procedures and systems of turnkey contractors with own ISO system and ESMS of MEIPL by introducing collective responsibility with common goal for the betterment of environment and society at large.

As per the business model, MEIPL has put his partnership with some renowned suppliers where, MEIPL should take the lead responsibility in implementing the complete ESMS aligned with existing ISO system. It therefore becomes important that MEIPL tries to assess and learn as well as negotiate with turnkey developers and suppliers in implementing a meaningful and uniform ESMS which becomes a benchmark for all its projects and operations. These will further undergo changes, based upon MEIPL's own experience in the field.

The ESMS will be ensured based upon the roles of the various parties under the contractual arrangements based on the ultimate requirement. However, any issues arising out of the project will be the sole responsibility of MEIPL on account of the ownership to the project.

The ESMS manual has been developed based on the typical project and operational stages in wind/solar power. MEIPL, based upon its own understanding, industry's best practices and classification of the various stages, will align the Environmental & Social Management System by identifying actual environmental and social risks and opportunities with stronger accountability and responsibility of inter departmental Mytrah functions as well as involving relevant stakeholders, engaged in various functions of project/operation.

1.6 Limitation

The ESMS is primarily focussed on aligning the existing EHS and Social management practices at MEIPL in an organised management system. The scope of the report is limited to ESMS at Project and Asset level under direct supervision and governance of the corporate level and will indicate the provisioning of a suitable management system for the project & O&M sites.

1.7 Continual Improvement: Updating & Modification

MEIPL is the sole proprietor of this ESMS and is responsible for its updation or modification periodically, if required. Changes may be needed in the following situations:

- Changes in any applicable regulations or standards
- Revision in the scope of ESMS procedures to address emerging social and environmental risks in projects/ O&M
- Any changes in the institutional setup for the implementation, training or monitoring for this ESMS in MEIPL spatially keeping the context of self-development and the turnkey model
- Any specific learning for continual improvement on sustainable business from the experience of the existing process/ protocol
- Change in the sector portfolio of MEIPL

The change in this ESMS will need to be formally approved by the ESMS Committee (refer as Management Review Committee here) and shared, cleared with the Investors and subsequently communicated and rolled out across the appropriate team.

The ESMS will be reviewed periodically to ensure that it remains relevant and effective over time and incorporates MEIPL and its projects evolving needs as well as the external environment.

Limitation of Circulation

The ESMS is strictly controlled for any form of circulation. The hard "Controlled Copies" of either the ESMS or the procedures as prescribed in the annexes to this document shall be marked as "Controlled Copy". Only the latest revision number shall be valid for circulation and use. "Controlled Copies" may also be accessible through the computer network or another electronic media within MEIPL.

The ESMS Manager (refer as Management Representative here) shall control all amendments, revisions, issues and circulation of this document.

Structure and Layout

Section 1: Introduction including objective and coverage, implementation, limitations and layout of the ESMS, designed for MEIPL

Section 2: Corporate Overview of MEIPL

Section 3: Corporate Policies of MEIPL (QSHE and Associated Policies)

Section 4 Organizational Overview & Corporate Structure

Section 5: Introduction to Wind and Solar Operations

Section 6: Applicable Reference Framework

Section 7: ESMS Framework of MEIPL

Section 8: Institutional Structure and Capacity for ESMS Implementation

Section 9: Monitoring and Reporting

2. Corporate Overview

Mytrah Energy Ltd. is an India-focused renewable energy IPP based in London and listed on AIM (MYT). Focused on delivering sustainable energy in a world without subsidies, Mytrah currently operates Wind power plants pan India with a substantial capacity towards Gigawatt journey. Company is in active process for noteworthy portfolio in grid operated solar PV power plants at various solar harness potential states in the country.

The company aims to remain one of the largest renewable energy companies in India, adding a significant capacity per year while ensuring strong returns for shareholders. To support this growth, Mytrah has built a fully integrated team of over 300 with expertise across the entire Wind and Solar value chain.

The team has installed more than 200 wind masts across India, collecting data from locations which can support over 10 GW of new wind plant. Of these locations about 3000 MW are known today to have sufficient wind and grid capacity to support development, with the remainder expected to follow as more wind data is collected.

The Solar pipeline is also developing quickly, about 500 MW under pre-construction / construction stages and further large-scale project bids in preparation. Mytrah also has commercial direct-sale Solar plants in operation today and an active pipeline of opportunities to expand this business in parallel with the larger Government contracted plants.

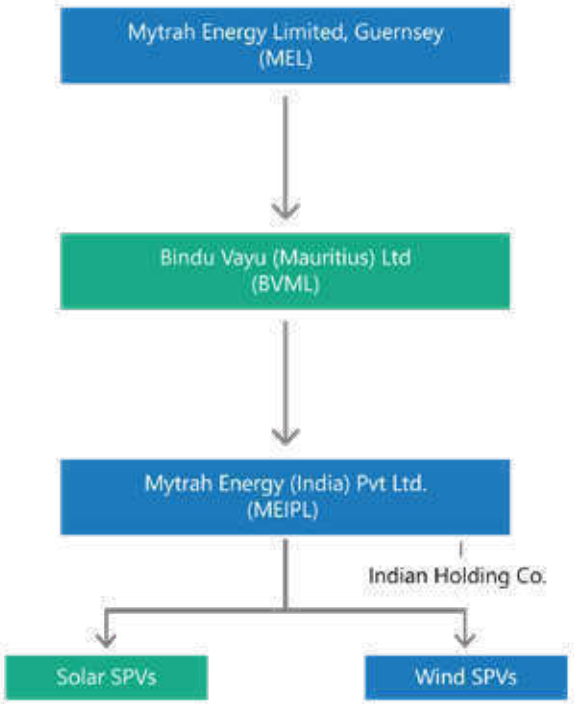
2.1 Company Structure

Mytrah has a simple structure where the listed company owns 100% of an Indian subsidiary through a Mauritius intermediary. Operations are managed from the Indian Holding Company, with the Wind and Solar plants contained in wholly-owned subsidiary SPVs.

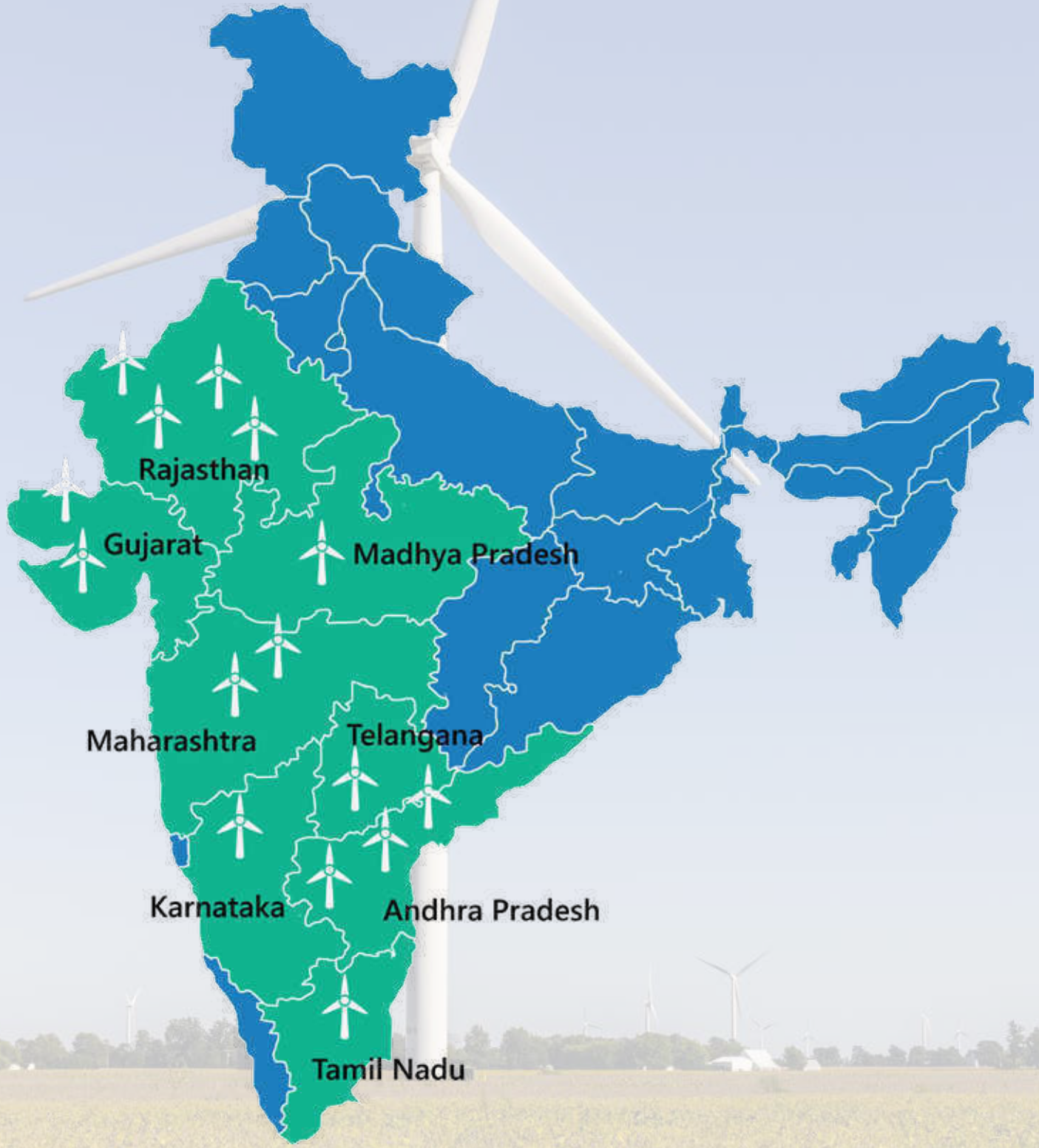
The AIM listed company is currently owned 57.9% by the Raksha Trust (representing founder Ravi Kailas), 14.6% by Esrano Overseas (a related party), 7.4% by Capital Group (one of the original investors) and 5.5% by Henderson (another of the original investor group). The remaining 14.6% is held by a variety of smaller funds and private investors.

2.1.1 Mytrah's Current Operations

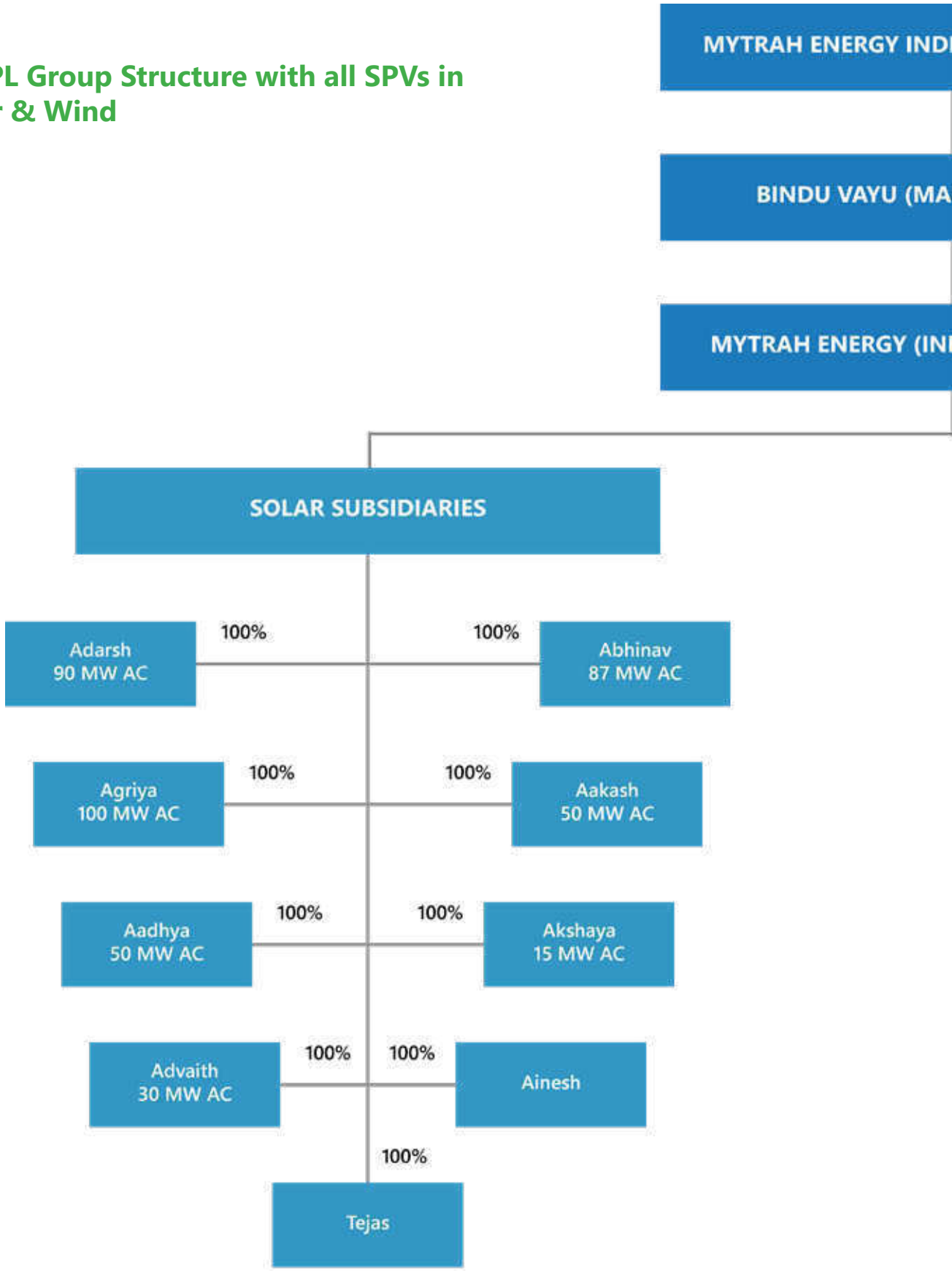
The image shows the location of Mytrah's current Wind power plants in India. In line with the group's approach to risk management, assets are located in multiple states to diversify both wind resource and political risk. This choice of geographic diversification is supplemented by diversification in technology providers (the company buys wind turbines from GE, Gamesa, Inox, Renew, Wind World and Suzlon) and in off-take arrangements which include PPAs of 15 - 25-year duration with State Utilities, as well as direct sales to industrial customers.

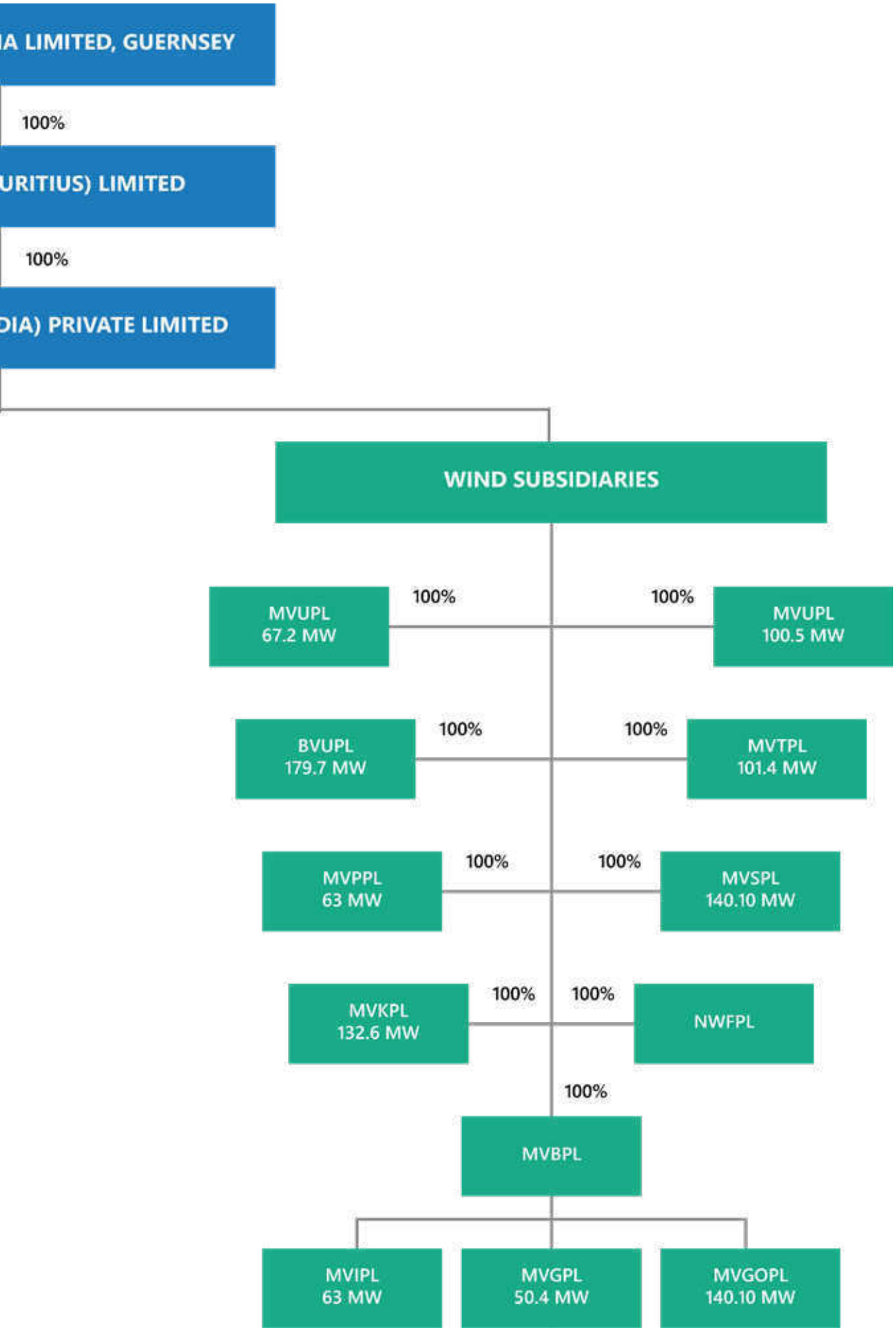


Mytrah Wind Foot Print Pan India



MEIPL Group Structure with all SPVs in Solar & Wind




IA LIMITED, GUERNSEY
100%
URITIUS) LIMITED
100%
DIA) PRIVATE LIMITED
WIND SUBSIDIARIES
MVUPL
67.2 MW
100%
100%
MVUPL
100.5 MW
BVUPL
179.7 MW
100%
100%
MVTPL
101.4 MW
MVPPL
63 MW
100%
100%
MVSPL
140.10 MW
MVKPL
132.6 MW
100%
100%
NWFPL
100%
MVBPL
MVIPL
63 MW
MVGPL
50.4 MW
MVGOPL
140.10 MW

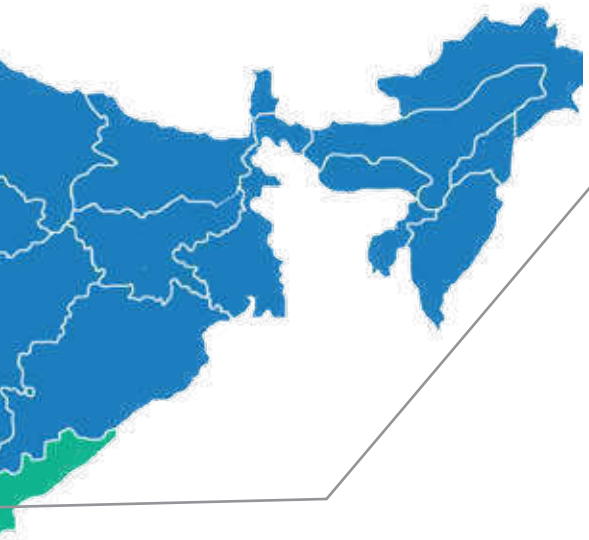
Mytrah Solar Foot Print Pan India

Punjab (52.5MW)

- 50MW AC/52.5 MW DC
- 25 year PPA tenure. PPA signed in Jan 2016 and expected COD by Dec 2016

Karnataka (52MW)

- 50MW AC/52.5 MW DC
- 25 year PPA tenure. PPA signed in Jan/Jul 2016 and expected COD by Aug 2017



Telangana (374MW)

- 327 MW AC (375 MW DC) & 16 Projects (including 3*50 MW AC)
- 25 year PPA tenure. PPA signed in Feb 2016 and expected COD by Mar 2017expected COD by Dec 2016

Andhra Pradesh (8MW)

- 8 MW single axis tracker project supplying power to all the temples of Andhra Pradesh
- 20 years PPA and the expected COD by Dec 2016

2.1. Existing Business Arrangement or Functionary Model

2.1.1. Business Model: Wind Power Projects

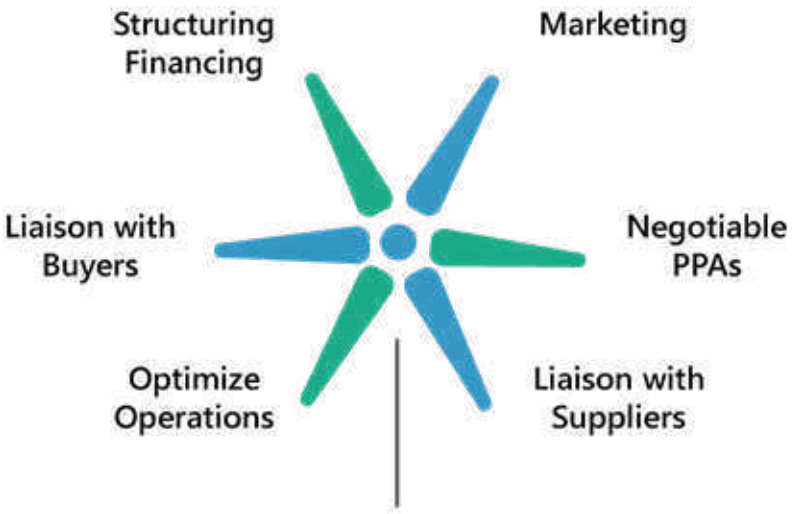
Presently MEIPL follows the following two models:

A) Turnkey Model: Under this model as the turnkey contractor takes in more proactive role wherein the entire project life cycle is managed by turnkey contractor, while MEIPL keeps a tab at all the project stages. Turn-key contractor as per the present practice engages in site assessment, pre-feasibility and feasibility and then engages with MEIPL to see if MEIPL would be interested in taking up the project. MEIPL does preliminary due diligence and technical studies and assesses the preliminary reports generated by turnkey contractor based on the site potential to generate wind energy.

Turnkey contractor may also approach MEIPL once the wind farm is developed and MEIPL is offered to take over the site. In either of these situation, if MEIPL is satisfied it takes over the site, however the responsibility for development, mobilisation, construction and operation and maintenance lies with turnkey contractor.

B) MEIPL Self Development Model: In the self-development model, all the project stages right from conception are handled by MEIPL. Actually MEIPL is the EPC contractor and the WTG supplier have a limited scope. It is only at the stage of mobilisation and construction that suppliers are involved. Supplier designs and installs the wind power plant as per the requirements of MEIPL and hands it over with no operation and maintenance liability. Other suppliers deliver other relevant services as defined by MEIPL. The operation and maintenance is taken care by the MEIPL.


MYTRAH



Testing & Commissioning

WTG Erection

Obtain Permits and Agreements

Assess Site

Acquire Options/Rights for Land/Site

Identity New Land/Sites

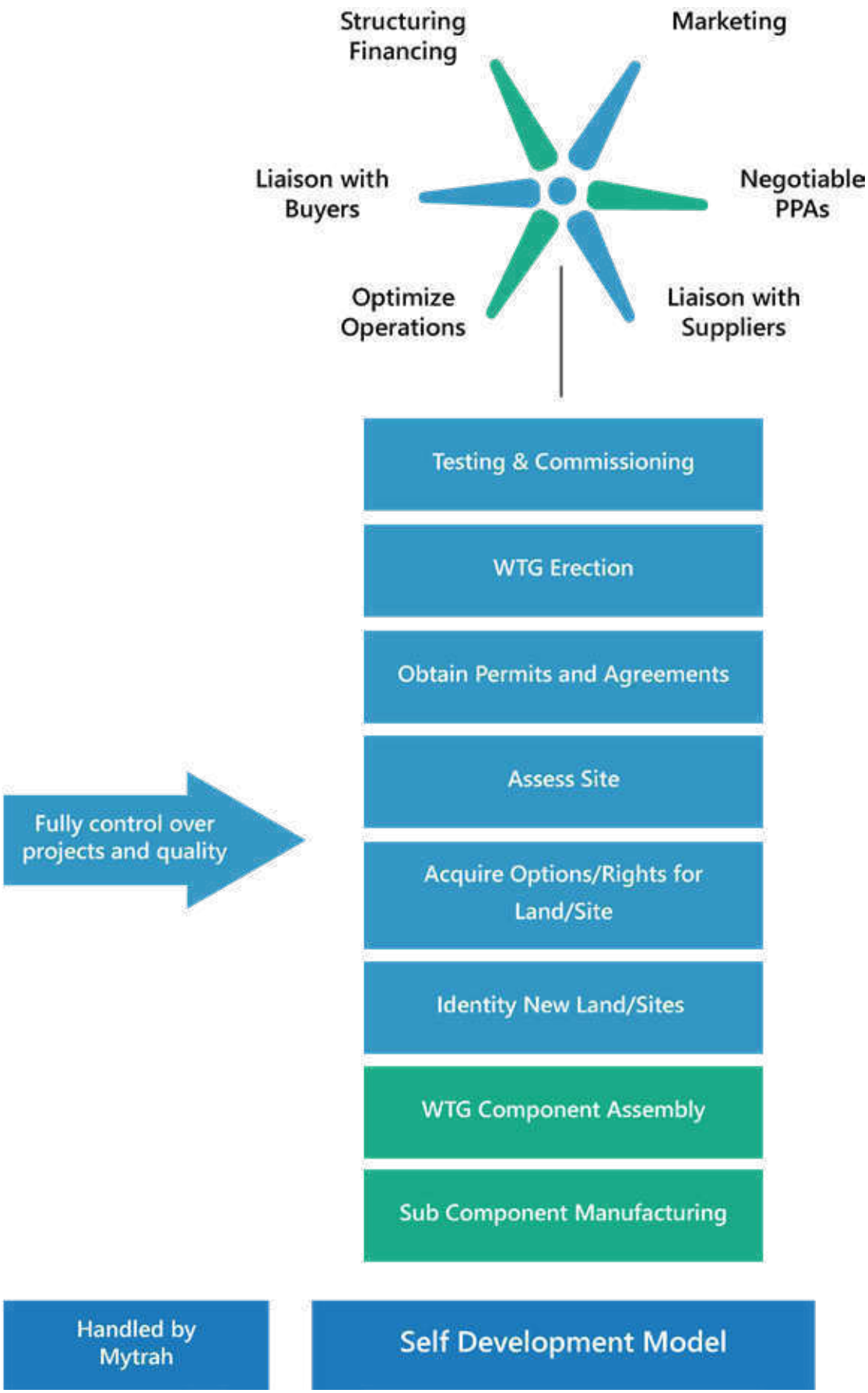
WTG Component Assembly

Sub Component Manufacturing

Fully dependent on the suppliers

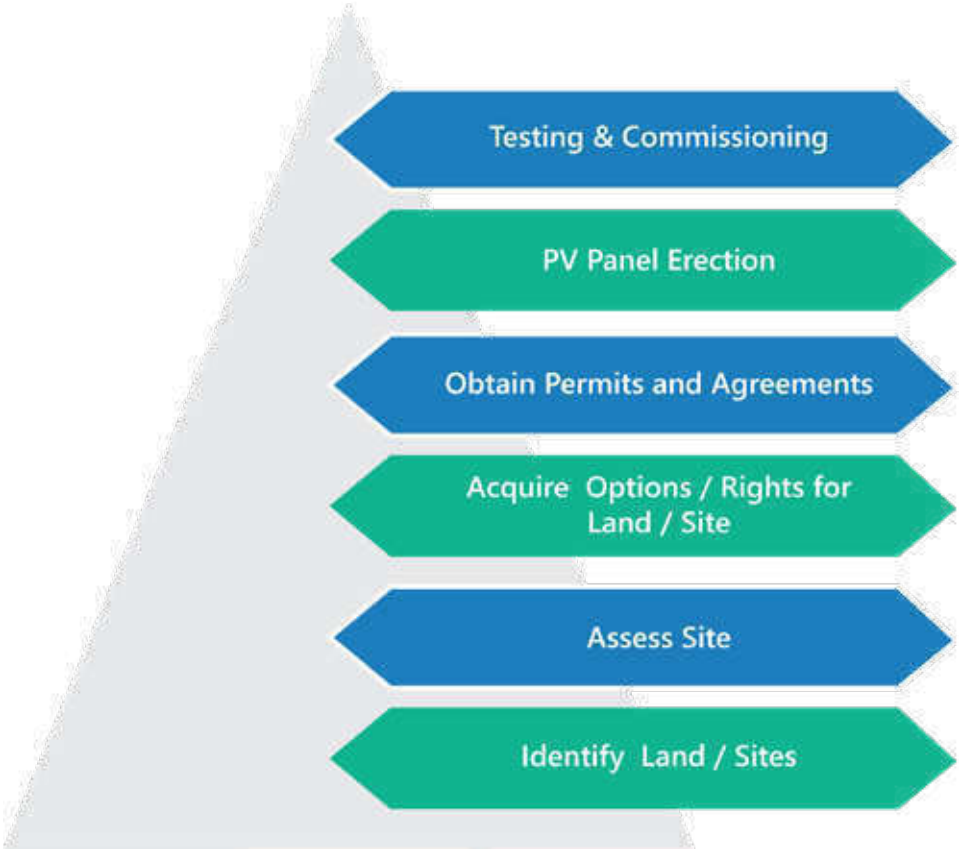
Turnkey Model

Handled by Wind Turbine Manufacturer


Structuring Financing
Marketing
Liaison with Buyers
Negotiable PPAs
Optimize Operations
Liaison with Suppliers
Testing & Commissioning
WTG Erection
Obtain Permits and Agreements
Assess Site
Acquire Options/Rights for Land/Site
Identity New Land/Sites
WTG Component Assembly
Sub Component Manufacturing
Fully control over projects and quality
Handled by Mytrah
Self Development Model

2.1.2 Business Model: Solar Power Projects

Currently, solar projects of MEIPL are managed on Build, Own and Operate (BOO) basis. It is therefore directly responsible for land procurement, project conceptualization and development



2.2 Environment Friendly Initiatives

Mytrah Energy (India) Pvt. Ltd. aims to generate green energy through renewable sources. The selection of technology, process and operation optimization itself ensures its commitment for natural resource conservation and green house effect mitigation initiatives with significant contribution towards overall sustainable development.

- Land for the wind project is optimized by considering areas for only foot print (80 x 80 m^2) & auxiliary areas
- Land for solar project is optimized by considering technology and now it is 4 - 5 acres/MW
- Water consumption in wind power plant is 1 gallons/MWH and in solar PV plant is 30 gallons/MWH in respect to coal based thermal power plant i.e. 490 gallon/MWH[1]
- Wind energy results in 2600 tons of CO_2 eq/ MW offsetting and solar PV energy results in 1700 tons of CO_2/MW (considering 20 % PLF) offsetting[2]
- Adaptation of right wind technology will help to generate only 26 Mean CO_2eTons/ GWH and solar PV technology will generate 85 Mean CO_2eTons/GWH in respect to generation of 888 Mean CO_2eTons/GWH from coal based thermal power plant
- Bring in synergy between the projects and programs in social aspects under four major domains – workplace, marketplace, society and environment by introducing triple bottom approach - Social, Environmental and Ethical

Ensure its social responsibility as partner, collaborate or pool resources with central and state governments for the best interest of sustainable development.

[1] American Wind Energy Association
[2] National Renewable Energy Laboratory

3. Corporate Policies

3.1 Quality, Safety,Health & Environmental Policy

The QSHE policy of MEIPL is as follows:

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 /minimize and/ or control adverse environmental impacts 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.

MEIPL shall communicate and make this policy available to their relevant stakeholders and interested parties. The policy shall be reviewed as per its existing ISO system and modified to incorporate changes as arising from change and progress of business plan, if required.

3.1.1 Signing Authority and Display

The QSHE policy signed by the Managing Director of MEIPL is attached as Annexure C1. All employees are expected to conduct themselves in accordance with the spirit of the policy.

The signed policy shall be displayed at the corporate office, at the respective site offices as well as at the website of the company.

3.2 Associated Policies

In alignment with the objectives of the QSHE policy which shall act as a centralized policy at the corporate level, MEIPL has also developed certain associated policies which effectively communicate the company's commitments in managing ESHS aspects. This ESMS covers three such associative policies / strategy document which are as follows:

- Land Procurement Policy
- Integrated Human Resources Policy
- Corporate Social Responsibility (CSR) Policy

The following sub-sections broadly highlight each of these aforementioned policies. Complete policy documents can be found in ***Annexure C*** attached with this ESMS.

3.2.1 Land Procurement Policy

MEIPL has established a land procurement procedure in place that governs land procurement for their project in a socially responsible manner. MEIPL as a company does not favour direct acquisition of land through government for any of its projects considering the nature of and short project execution time.

The following are some of the key objectives of the policy.

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.

A copy of the land procedure has been attested in ***Annexure F***.

3.2.2 Integrated Human Resources Policy

The Human Resource & FMS department of MEIPL has put into place several policies related with wage/ salary, other remuneration or benefits, working conditions , health and safety, unethical behavior between senior and subordinate employees, discrimination on the basis of caste, creed, language, religion etc. , gender discrimination, work place harassment etc. in company's SAP Net weaver Portal that establishes the company's outlook on human resources management with specific guidelines developed for managing employees within the organization.

A consolidated policy defined as the Integrated Human Resources Policy has been established which consolidates the policy objectives covered within the manual. The policy also reflects MEIPL's commitment towards managing non-employee workers and the supply chain to the extent it is able to exert control and influence directly or indirectly through appropriate department/s. This ESMS covers this policy as an integral requirement for managing employees and workers with direct/ indirect control and human resources within the organization.

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The key commitments of the integrated HR policy are listed as :

- Commitment to comply fully with the employment objectives of the policy on Staffing and comprehensive requirements of the different businesses of the group.
- Identify and select individuals to ensure the best suitability for the current job level, experience and expertise for future needs.
- 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.
- Commitment 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 joinee with the working environment of the organization.
- Promotes wellbeing of its employees by implementing & maintaining the best people practices with high standards of work performance and professional conduct across all its services
- Govern 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.
- 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".
- 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.
- Adhere to all applicable statutory and regulatory requirements and desired practices as applicable.
- 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.

3.2.3 Corporate Social Responsibility Policy

Policy Framework

Mytrah endeavors to bring in synergy to create value across all its' stakeholders and implement focused and sustainable CSR projects and programs across the group. To implement effective CSR policy, it is important to align all relevant elements of CSR. These include clear Policy Statement, Strategic CSR domain based interventions, CSR governance structure, CSR implementation approaches and CSR communication strategies for both internal and external communication.

The overall synergy is achieved through understanding of the stakeholder needs at locations, organizational mandate in vogue, interaction with key stakeholders across the group and participation at all levels of the group in taking forward the CSR mandate.

Mytrah is committed to ensuring social wellbeing of the society and communities through its Corporate Social Responsibility (CSR) initiatives.

CSR Statement:

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 programs in adherence with the laws of the land and with passion and professionalism

Figure 3.1 E&S Policies in MEIPL and Implementation Strategy

Human Resource and Facility Management Policy

- Management of employees at the corporate level and the project level
- Management of onsite contractors and contract workforce
- Management of statutory labor Compliance and related issues
- Addressal of Employee or contractors grievances and their redressal

EHS & S Policy

- Minimize the environmental impacts of our existing operations
- Environmental impacts of new operations are fully assessed and minimized prior to their introduction
- Management of Statutory environmental compliances
- Improving efficiency in material usage and effective usage of resources
- Handling and management of wastes
- EHS training and capacity building at corporate and project level

Corporate Social Responsibility Policy

- Propagating ethical business conduct
- Managing human rights risks and issues
- Gender empowerment and participation
- Promoting and supporting rights of education

Land Procurement Policy

- Optimization of land requirement
- Purchase or acquire land as per legal processes
- Not indulge in any illegal means
- Minimize land procurement from vulnerable groups such as small and marginal farmers

Human Resource and Facility Management Policy

- Head, HR & FMS
- Corporate HR managers & executives for Talent acquisition, compliance and payroll, employee benefits
- Regional Executives and Deputes

Asset Management

- Head – Asset Management, Head – O &M , Head – EHS & Systems
- Site In Charge, Regional EHS officer, Manager , Engineer
- Graduate Engineering Trainees / Field Deportations

Corporate Social Responsibility

- Head – CSR
- Senior Manager
- Assistant Manager

Legal Department

- Head – Legal
- Senior Manager
- Executives
- Field Officers

ESMS MANAGER

ESMS Committee for implementation of ESMS and its various policies objectives and process frameworks prescribed as part of the ESMS

4. Organizational Overview & Corporate Structure

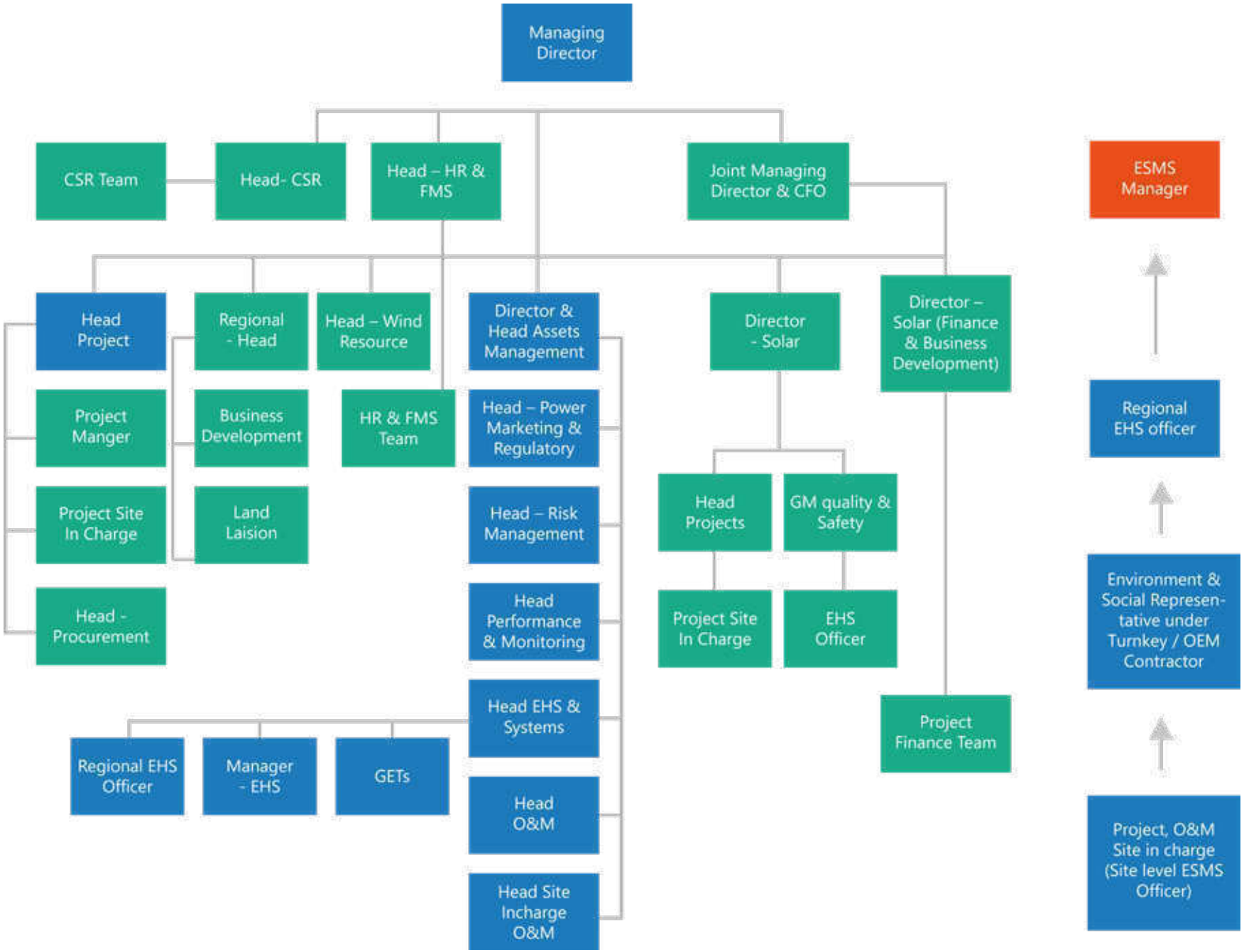
MEIPL has already established relevant departments within its organizational structure at the corporate level to manage EHS, HR & FMS, CSR and land acquisition/ procurement and meeting their respective goals and objectives as well as implementing the company's commitments through their various respective policies.

MEIPL's operating model places the key responsibility for each of the triggered ESMS activities on the project manager, Site Incharge, who is supported by his team locally and by the functional experts of various departments in our head office to ensure strong governance of Environmental & Social Management System through the ESMS / Management Review Committee as per timely directive of top management.

The following Figure 4.1 highlights the existing organizational structure with respect to project development and management, EHS management and their interactions with the highest decision making authority.

The ESMS / Management Review Committee would be responsible for the overall implementation of this ESMS document through site incharges at project and asset level. Project manager/site incharge will be authorised to implement the same at respective site directly or indirectly (in case of turnkey project) under the guidance of ESMS manager / management representative as well as functional heads at corporate office. The ESMS committee will be considered as existing management review committee. However, concerned functional heads / their representatives related with the direct influenced areas of ESMS will be invited in the meeting for taking their valued guidance, status updating, strategic planning before execution the same at project/asset level. Existing Management Representative of integrated ISO system will be acted as ESMS manager and will be responsible and authorised to invite concerned functional heads/ representative as per the requirement of ESMS implementation and further proceeding. More information on the composition of this committee, its roles and responsibilities and its reporting and feedback mechanism from the corporate level to the project level and vice versa has been provided in **Section 8**.

Profile of each of the departments for environmental and social management is provided as ***Annexure A1.***


Managing Director
CSR Team
Head- CSR
Head – HR & FMS
Joint Managing Director & CFO
Head Project
Regional - Head
Head – Wind Resource
Director & Head Assets Management
Director - Solar
Director – Solar (Finance & Business Development)
Project Manger
Business Development
HR & FMS Team
Head – Power Marketing & Regulatory
Project Site In Charge
Land Laision
Head – Risk Management
Head - Procurement
Head Performance & Monitoring
Head Projects
GM quality & Safety
Project Site In Charge
EHS Officer
Head EHS & Systems
Project Finance Team
Regional EHS Officer
Manager - EHS
GETs
Head O&M
Head Site Incharge O&M
ESMS Manager
Regional EHS officer
Environment & Social Represen-tative under Turnkey / OEM Contractor
Project, O&M Site in charge (Site level ESMS Officer)

5. Introduction to Solar and Wind Operations

This section provides a broad overview of the key project components and activities for wind and solar projects. Detailed description and the specific requirements of the various components of wind and solar power projects along with the summary of key activities in both have been provided as part of ***Annexure B.***

5.1 Overview of Wind Power Project

5.1.1 Key Project Components

A typical wind power facility has the following components:

- Wind turbines including towers
- Unit transformers with each wind turbine
- Internal access roads
- Pooling substation
- Metering unit
- Transmission system (power lines and other) connecting the facility to the state/ national grid through pooling substations.

5.1.2 Key Project Activities

MEIPL generally follow self-development or turnkey business model for wind project. The key activities involved in the wind farm projects are:

- Selection of wind mast location and installation of wind mast
- Collection of wind data and analysis of wind data
- Wind Resource Assessment – In-house and through third party consultants
- Final selection of sites for development based on Wind Resource Assessment
- Micro siting
- Land procurement
- Site development (construction phase activities)
- Procurement of turbine and finalisation of EPC contracts after detailed engineering
- Component Unloading and Installation of components (Construction phase activities)
- Grid connection
- Commissioning
- Operation and Maintenance

5.2 Overview of Solar Power Project

5.2.1 Key Project Components

MEIPL current business model focuses on PV system based technologies. A solar photovoltaic power plant consists of photovoltaic module which act as solar energy collectors which generate electricity which is converted from DC to AC mode through an inverter which can then be stepped up for evacuation to grid. Based on the way the solar cells are mounted, the PV systems can be classified into:

- Fixed-tilt systems.
- Tracking system.

The main components of a typical solar power plant are:

- Photovoltaic Module including solar photovoltaic module, mounting structure, array junction box, main junction box, fuses, magnetic circuit breaker, surge protection, module interconnection cable, mounting hardware and accessories, module ear thing accessories etc.

- Inverter including inverter accessories
- Transmission systems including transmission towers required for evacuation of power generated from the switch yard to the nearest grid
- Water supply and drainage systems
- Other associated infrastructure like site office, internal roads, security booths etc. as per the suitability

5.2.2 Key Project Activities

Once the initial technical studies and due diligence have been carried out (including solar radiation studies and micro siting analysis), the land has been procured and the key statutory licenses and mandates have been received, the key activities involved in the solar power project can be classified under two main phases of the project lifecycle which are the construction phase and the operation phases.

Following broadly indicates the key activities in solar project:

- Pre- construction activities commence with site development, which involves soil investigation, site survey, site levelling, fencing, drainage etc. as per the suitability
- Major civil work involved in solar PV project includes solar photovoltaic array foundations, load centre transformers and inverter pedestals, switch yard structure etc.
- Maintenance checks that oversees grid interface healthiness and power being exported, inspection of photovoltaic panel glass surfaces, inspection of all wiring and electrical infrastructure for physical damage and for any sign of excessive heating or physical damage etc.'
- De-weeding activities (if any) and maintenance of supporting plant infrastructure such as site office, internal roads and drainage systems etc.

5.3 Project Lifecycle Stages & Activities

Both wind and solar projects follow a similar cycle of phases from primary conception phase to final decommissioning phase over its lifecycle span which in both cases vary from approximately 25-30 years. Prior to assessing and understanding the environmental and social risks, the project lifecycle phases and some of the key activities have been explained in the following sections.

5.3.1 Project Conception Stage

The project conception stage is the first stage of any potential greenfield project. At this stage the project uses primarily available secondary literature to develop the basic project concept, be it technical or commercial (financial feasibility of the project). The conception stage broadly focuses on:

- Resource assessment of wind/ solar potential and economic feasibility;
- Preliminary environmental and social evaluation of possible sites and technologies to be used in project development; and
- Ease of availability of land and primarily less social and environmental liability for the project.

There are different parameters for wind and solar project to assess the technical and financial feasibility.

5.3.2 Site Selection and Feasibility Stage

The site selection and feasibility stage primarily assesses available technical data for potential project sites or locations. The site selection stage shall include site screening (i.e. current land use-residential, agricultural, etc.), understanding general layout with preliminary siting, preliminary land availability assessment, result of wind resource assessment etc. At this stage, the project also assesses the feasibility of the project which involves finalizing conceptual design of the project, demand estimation, assessing approximate costs for development, construction and operation of the project and predicted revenue, permitting

requirements etc. The economic, technical and environmental feasibility stage aims at assessing the project before committing significant expenditure.

5.3.3 Planning and Scheduling Stage

The planning and scheduling stage essentially includes the commencement of land procurement process, DPR preparation, post finalization of studies including environmental and social assessment (if required), tendering/ bidding stage for the project and awarding work to contractors, liaison with local administration, scheduling of work activities for mobilization and construction and obtaining necessary permits and approvals for start of construction.

5.3.4 Mobilization and Construction Stage

The mobilization phase involves finalization of construction design, schedule methodology and integration of different activities. This phase of the project would typically include procurement of construction resources and equipment, mobilization of contractors and subcontractors and their workforce for various construction activities, setting up of project office, workers camps and construction campsite and availing basic utilities for the onsite personnel, etc. The construction activities commence with site preparation (also be classified as pre-construction activities) including clearance of vegetation, levelling of land etc., and is followed by foundation activities including auguring of land to establish the foundation support of the WTG/modules, mechanical and electrical work, construction of ancillaries and support structures such as permanent site office, transmission line corridors, substations/switch yards etc.

5.3.5 Operations and Maintenance Stage

The operation activities for a typical wind / solar project comprises of optimum operation of individual WTG and charging of the solar panels with evacuation of the power generated via transmission lines to the switch yard from where it is evacuated to the identified pooling substation or local substation.

The maintenance aspects of a solar project include day to day monitoring and operations of the solar farm, washing of the solar panels to remove dirt and dust settled on the panels regular de-weeding of the areas around the panels, regular operation and maintenance of the electrical installations such as inverter yards, transformers, underground wiring and optical cable network etc. Wind-farm operations need more maintenance on the structural elements of the WTG (repairs and component fixes) and the operations are primarily monitored through a SCADA system.

5.3.6 Decommissioning Stage

Typical decommissioning activities in either wind or solar projects include dismantling of WTGs / Solar panels, de-installation of electrical infrastructure, disposal of waste and reclamation of land for further use.

A typical life span of a wind/solar energy project as described previously is approximately 25 years, whereas other utilities like substation and transformer have a life of up to 50 years. Since the site remains a wind/solar potential site and the land ownership is with the developer directly, decommissioning may be followed by another round of re-installation of the WTGs/ solar Panels to maximise the generation of green power.

5.4 Typical Environmental and Social concerns for Wind and Solar Power Projects

Both wind and solar power projects, though clean form of energy have certain social and environmental concerns which need to be managed through the various stages of project development, operation and decommissioning. They are largely attributed to the scale or extent of the project or inherent in its design (for example wind farm can increase the mortality of birds and bats due to collision and hits. The tables 5.1 and 5.2 summarize the key issues relevant to wind and solar sectors. Detailing on each of the stages (wind and solar power projects) key E&S issues, mitigation measures, specific frameworks, tools, responsibilities etc. have been provided in stage-wise in Section 7 of this document.

Table 5.1 Typical Environmental & Social concerns in a Wind Power Project

Wind Power Projects			
S.No.	**Impact/issue**	**Project phase**	**Duration and Nature of impact / issue**
1	Land acquisition and rehabilitation and resettlement issues in case the land is not purchased, rather acquired as per relevant act	Pre- Mobilization and Construction	Long term, Permanent
2	Loss of land based livelihood including agriculture/grazing and economic impact as per relevant act	Pre- Mobilization and Construction	Long term, Permanent
3	Displacement of settlements (at times including tribal population)	Pre- Mobilization and Construction	Long term, Permanent
4	Community health impacts in the operation phase because of the shadow flicker and blade glint	Operations	Long term, Permanent
5	Increased noise levels in the area both during the construction and whole operation phase of the project	Mobilization and Construction/ Operations	Long term, Permanent
6	Interference with ecological corridors and faunal migration routes mainly through ecological disturbance leading to displacement or exclusion of birds and collisions of birds with wind turbines	Mobilization and Construction/ Operations	Long term, Permanent
7	The presence of wind turbines may indirectly affect local fauna and bird populations by decreasing the area of habitat available to breeding, feeding, nesting, resting etc.	Operations	Long term, Permanent
8	Bird hits and avifaunal mortality due to wind farm operations	Operations	Long term, Permanent
9	Potential impact on the livestock activity due to reduction in the grazing land available from the earlier existing site	Operations	Long term, Permanent

S.No.	Impact/issue	Project phase	Duration and Nature of impact / issue
10	Loss of vegetation from clearing (at times including protected areas) will possibly accentuate soil erosion	Construction	Short term, Temporary
11	Influx of migrant population specially during construction phase	Pre- Mobilization and Construction	Short term, Temporary
12	Electromagnetic interference	Operation	Long term, Permanent
13	Aviation radar disturbance issues	Operation	Long term, Permanent
14	Topographical change	Construction	Long term, Permanent
15	Possible air pollution may also happen during the construction phase in case the access roads and other added utilities are to be constructed	Construction	Short term, Temporary
16	Effect on cultural or sites of archaeological importance	Construction	Short term, Temporary

Table 5.2 Typical Environmental & Social concerns in a Solar Power Project

Solar Power Projects			
S.No.	**Impact/issue**	**Project phase**	**Duration and Nature of impact / issue**
1	Land acquisition and rehabilitation and resettlement issues in case the land is not purchased, rather acquired	Pre- Mobilization and Construction	Long term, Permanent
2	Loss of land based livelihood including agriculture/grazing and economic impact as per relevant act	Pre- Mobilization and Construction	Long term, Permanent
3	Loss of vegetation from clearing (at times including protected areas)	Construction	Short term, Permanent
4	Interference with ecological corridors and faunal migration routes as well as human access routes	Construction	Long term, Permanent
5	Displacement of settlements (at times including tribal population)	Pre- Mobilization and Construction	Long term, Permanent
6	Right of way requirements for access road, transmission line, water supply etc. creating potential disruption of community access routes	Construction	Long term, Permanent
7	Issue of local labour employment and their living and working conditions	Construction	Short term, Temporary
8	Influx of migrant population, labour camp and related facilities	Construction	Short term, Temporary
9	Work site facilities and HR and labour related compliances	Construction	Short term, Temporary
10	Traffic Movement; and Pedestrian Safety	Construction	Short term, Temporary
11	Onsite Health and Safety	Construction	Short term, Temporary
12	Diversion of water from community resources such as ground water wells, neighbouring surface water bodies	Operation	Long term, Permanent

S.No.	Impact/issue	Project phase	Duration and Nature of impact / issue
13	Operation phase Health and Safety	Operation	Long term, Permanent
14	Wastewater and waste disposal	Operation	Long term, Permanent
15	Hazardous waste management (recycling and disposal)	Decommissioning	Short term, Temporary
16	Issue of local level employment opportunity	Operation	Long term, Permanent
17	Absence of Grievance redressal mechanism which can contribute to community resentment or agitation	Operation	Long term, Permanent

Note: Above mentioned concerns are typical in nature in Wind and Solar Industry. Mytrah is keen to establish the process to examine project phase wise applicable legislation, environmental and social impacts / issues to identify duration and nature of impact with mitigation plan in practical, meaningful and justified manner.

6. Applicable Reference Framework

This ESMS has been developed under the ambit of the following Reference Framework:

- Applicable Indian national, state and local regulatory requirements
- The IFC Performance Standards (PS1 to PS8) Framework 2012 for Environmental and Social Sustainability
- The World Bank Group General EHS Guidelines
- EHS Guidelines for Wind Energy Projects and Electric Power Transmission and Distribution
- ADB's Safeguard Policy Statement 2009
- Other ADB's social policies and guidelines on:
    - 2011 Public Communications Policy
    - 2001 Social Protection Strategy
    - 2011 Operations Manual (OM) C3 on Incorporation of Social Dimensions
    - 2010 Gender mainstreaming guidelines
    - 2011 Participation Guides
- Relevant International Labour Organization (ILO) conventions which are ratified by Indian government of labour standards and basic terms and conditions of employment.

The following sections summarise each of the above framework requirements and indicate the applicability of these regulations to wind and solar power projects. Refer ***Annexure D*** for details of the reference framework.

6.1 Applicable Indian National, State & Local Regulatory Requirements

The regulations in India exempt wind and solar power projects from seeking prior environmental clearance based on an Environmental Impact Assessment. Government of India has declared solar and wind Project as WHITE Category Industry considering very low pollution potential activities and instructed State Pollution Control Boards / Committees for exempting NOC / Consent for Wind / Solar project irrespective of capacity. List of key regulations applicable to MEIPL's operations and its applicability to the solar and wind farm projects have been attached as **Annexure D** under the Register of Regulations (RoR).

6.2 IFC Performance Standards Framework 2012

The Performance Standards (PS) Framework (January 2012) established by IFC stipulates that any project shall meet certain requirements throughout the life cycle of an investment by IFC or other relevant financial institution or commercial banks that adopt the standards. The PS are supported by a general as well as a sector specific guidelines for management of EHS issues.

A list of performance standards is provided in Table 6.1.

Table 6.1 IFC Performance Standards

Performance Standards	Specific Areas
Performance Standard 1:	Assessment and Management of Environmental and Social Risks and Impacts
Performance Standard 2	Labour and Working Conditions
Performance Standard 3	Resource Efficiency and Pollution Prevention
Performance Standard 4	Community Health, Safety and Security
Performance Standard 5	Land Acquisition and Involuntary Resettlement
Performance Standard 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources
Performance Standard 7	Indigenous Peoples
Performance Standard 8	Cultural Heritage

The Table 1.2 of **Annexure D** summarizes the requirements of each PS and defines what requirements will be triggered for MEIPL's projects and operations and includes reference to sections of this ESMS to meet the stated requirements.

6.3 The World Bank Group General EHS Guidelines

The World Bank Group General Environmental, Health and Safety (EHS) Guidelines 2007 are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP). When one or more members of the World Bank Group are involved in a project, these EHS guidelines are applied as required by their respective policies and standards. These general EHS guidelines are designed to be used together with the relevant industry sector EHS guidelines which provide guidance to users on EHS issues in specific industry sectors.

The EHS guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs. Application of the EHS guidelines to existing facilities may involve the establishment of site-specific targets, with an appropriate timetable for achieving them. The applicability of the EHS guidelines should be tailored to the hazards and risks established for each project on the basis of the results of an environmental assessment in which site-specific variables, such as host country context, assimilative capacity of the environment and other project factors, are taken into account. The details of the General World Bank EHS guidelines and sector specific requirements are included in Annexure D.

6.4 ADB's Safeguard Policy Statement, 2009

In July 2009, ADB's Board of Directors approved the new Safeguard Policy Statement (SPS) governing the environmental and social safeguards of ADB's operations. The SPS builds upon ADB's previous safeguard policies on the Environment, Involuntary Resettlement and Indigenous Peoples and brings them into one consolidated policy framework with enhanced consistency and coherence and more comprehensively addresses environmental and social impacts and risks. The SPS also provides a platform for participation by affected people and other stakeholders in the project design and implementation.

The SPS applies to all ADB-financed and/or ADB-administered projects and their components, regardless of the source of financing, including investment projects funded by a loan; and/or a grant; and/or other means, such as equity and/or guarantees. ADB works with borrowers and clients to put into practice the requirements of SPS.

The SPS supersedes ADB's Involuntary Resettlement Policy (1995), Policy on Indigenous Peoples (1998) and Environment Policy (2002). In accordance with the SPS, these previous policies apply to all projects and tranches of multi-tranche financing facility projects that were reviewed by ADB's management before 20 January 2010. Refer Annexure D for more details on ADB's policies and other requirements.

6.5 ADB'S Social Protection Requirements

ADB's Social Protection Strategy requires MEIPL to comply with applicable labor laws in relation to the Project. Projects should take the following measures to comply with the core labor standards :

The term "projects" used in this document to mean business activities financed by MEIPL using ADB funds.

The core labor standards are the elimination of all forms of forced or compulsory labor; the abolition of child labor; elimination of discrimination in respect of employment and occupation;

- Carry out its activities consistent with the intent of ensuring legally permissible equal opportunity, fair treatment and non-discrimination in relation to recruitment and hiring, compensation, working conditions and terms of employment for its workers (including prohibiting any form of discrimination against women during hiring and providing equal work for equal pay for men and women engaged by MEIPL (directly/indirectly);

- Not restrict its workers from developing a legally permissible means of expressing their grievances and protecting their rights

regarding working conditions and terms of employment;

- Engage contractors and other providers of goods and serviceswho do not employ child labor or forced labor ;

    - Who have appropriate management systems that will allow them to operate in a manner which is consistent with the intent of (A) ensuring legally permissible equal opportunity and fair treatment and non-discrimination for their workers and (B) not restricting their workers from developing a legally permissible means of expressing their grievances and protecting their rights regarding working conditions and terms of employment; and

    - Whose subcontracts contain provisions which are consistent with paragraphs (i) and (ii) above.

The above measures will be incorporated in the corporate level and Environmental and Social Management Plan (ESMP).

The monitoring and reporting requirements in the ESMP will also include MEIPL's compliance with the measures identified above. MEIPL through its ESMS Committee/ Management Review Committee will also monitor compliance of its contractors and subcontractors and include it in the Annual E & S Report (AESPR) and freedom of association and the effective recognition of the right to collective bargaining, as per the relevant conventions of the International Labor Organization as ratified by Indian government.

Child labor means the employment of children whose age is below the statutory minimum age of employment in the relevant country, or employment of children in contravention of International Labor Organization Convention No. 138 'Minimum Age Convention" (www.ilo.org).

Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

7. ESMS Framework of MEIPL

The previous sections have established the corporate level background of MEIPL with direct linkage at project/asset level for ensuring environmental and social sustainability of its wind and solar business. They have provided an understanding on MEIPL's operations as well as delineated the key lifecycle phases of any solar or wind project undertaken by the company.

This section is the most critical part of this ESMS document as it describes the process by which EHS and Social issues are identified at every stage of the project and adequate mitigation measures, institutional structure, resources and monitoring and control are provided to implement the same.

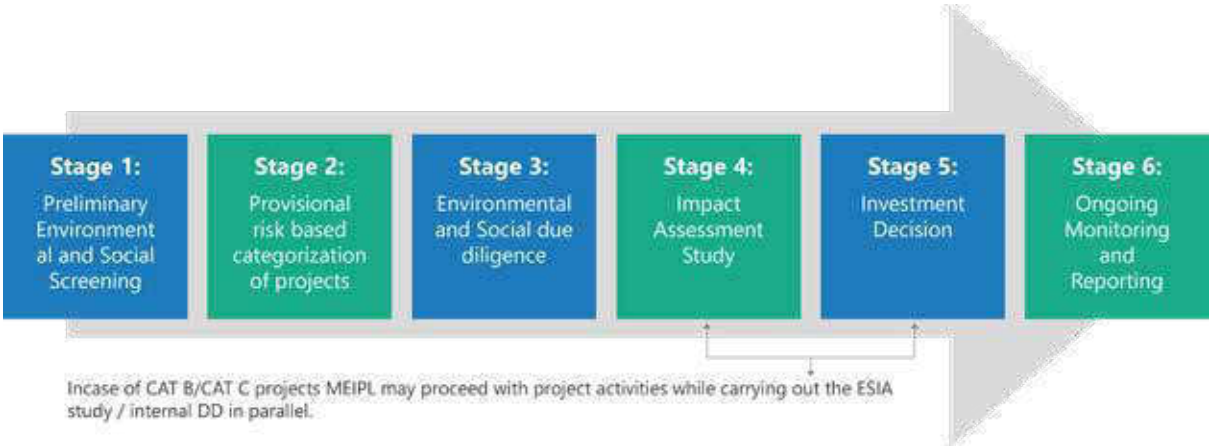
The first sub-section discusses the project screening and risk assessment methodology whereas the second section discusses the phase-wise ESMS framework for its projects.

7.1 Project Screening and Risk Assessment of Projects

This section discusses MEIPL's approach to project screening and evaluation process for identifying potential environmental and social risks from potential investments in-case of greenfield projects or any brownfield projects, in case MEIPL invests into that asset. The section provides stage-wise activities to be undertaken to screen, categorize and scope the E&S assessment requirements as per the scale of the project.

The following Figure 7.1 highlights the process flow for the screening and risk assessment process. Subsequent sections discuss each of the highlighted stages in further details.

Figure 7.1 Project Screening and Risk Assessment Process



7.1.1 Stage1: Preliminary Environmental & Social Risk Screening

As part of the initial or first stage of E&S risk assessment in an investment cycle, MEIPL will undertake a preliminary environmental and social screening exercise for any new project in self-development or a project in which it proposes to enter as developer (at the later stages of the project). This screening will be in the form of an initial assessment or screening to identify the significant/insignificant E&S issues and to provisionally categorize the project (discussed in the subsequent section) based on the assessment. This high level initial assessment will be accomplished with the help of E&S screening checklist developed as part of this ESMS (refer ***Annexure E***). In case of turnkey project, where Mytrah has a limited role for selection of asset including land, preliminary environmental and social risk screening will not be triggered as high level initial assessment. However, Mytrah will identify the same as a part of its own ESMS to ensure the categorization of the project as per the suitability.

At this stage of risk assessment process, MEIPL will also ensure that no investment shall be directed towards any businesses activities restricted or prohibited as per the list of Prohibited Investment Activities List (PIAL) of ADB or under IFC's exclusion list. The lists of these activities have been enumerated in ***Annexure D***. In case there are compelling reasons to invest in a sector or activity in the exclusion list, MEIPL will need to take prior approval from ADB before commencing on the investment.

The Environmental & Social screening will be carried out with the intent of identifying high level issues and risks with regards to the project location, environmental interactions, sensitive receptors, historical or social legacy, indigenous people (identified by Host country), cultural heritage, or labour issues and any other reputational risks. These indicators have been captured as part of the screening checklist. This checklist will be filled on the basis of interactions with the project team, preliminary reconnaissance visits and information available in the public domain. The screening exercise will be carried out by relevant personnel with required technical competencies from the relevant departments.

In specific cases where MEIPL is in the process of an asset or project acquisition, the screening can inform the decision to move ahead with the investment or not. Where the decision is to move ahead on the investment, the senior management in discussion with the ESMS committee needs to then decide additional Environment and Social Due Diligence (ESDD) or Environmental and Social Impact Assessment (ESIA) studies to be triggered. Please refer to ***Annexure J2*** for ESDD template.

7.1.2 Stage 2: Provisional Risk Based Categorization of Projects

Once the screening process is complete based on the information from the assessment as well as taking into account inputs from deputed MEIPL personnel of relevant department/s, the project would be provisionally categorised as per the E&S risk categories indicated in

Table 7.1. This categorization is based on ADB and IFC E&S categorization criteria and is a method to decide further course of action on the investment in terms of EHS & Social issues. Each project will have a separate category on environment, involuntary resettlement and indigenous peoples based on significance of impacts on each safeguard aspect.

The MEIPL wind and solar projects can be classified under the following categories based on the significance of their environmental, involuntary resettlement and indigenous peoples impacts.

Table 7.1 E & S Risk Categories

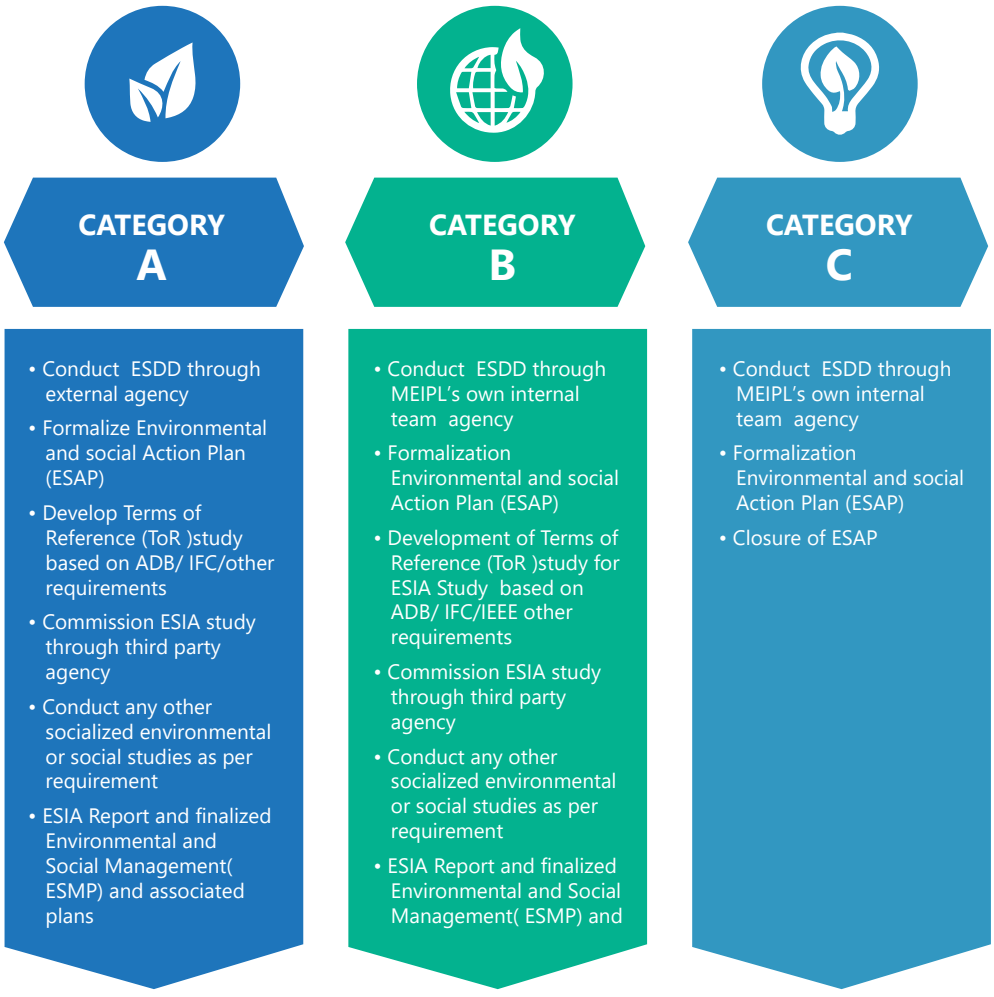
Parameter	Category A	Category B	Category C
Environmental Impacts	Significant/adverse impacts that are diverse, irreversible, or unprecedented on the environmental baseline and its associating parameters such as air quality, water quality and noise levels. The extent of these impacts are large (beyond 5km from project footprint) and are of high intensity causing change in the baseline conditions.	Potentially adverse but limited impacts that are site specific largely reversible on the environmental baseline and its associating parameters such as air quality, water quality and noise levels. The extent of these impacts are medium (upto 5 km from project site) and are of moderate intensity causing change in the baseline conditions.	Minimal or no adverse environmental impacts, requiring very limited management measures to mitigate the impacts. The extent of these impacts are very low spread, restricted within the project boundary and are of low intensity causing change in the baseline conditions.
Involuntary Resettlement (IR) Impacts due to Land Acquisition or Restricted Access	Transfer of government land or involuntary acquisition of land through eminent domain law (i.e. Land Acquisition Act). Physical or economic displacement of 200 or more land owners, users and dependents or lose 10 % or more of their productive or in come generating assets	Through willing buyer and willing seller arrangement or transfer of government land. Physical or economic displacement of less than 200 land owners, users and dependents	Through willing buyer and willing seller arrangement or transfer of government land. Insignificant physical or economic displacement of land owners, users and dependents.
Impacts on Indigenous Peoples (IP) (in this case Scheduled Tribe)	If Significant Impact on classified indigenous groups such as Scheduled Tribe families in terms of their customary rights of use and access to land, cultural and natural resources as per the relevant act/rules of Host country.	If there are limited impacts (i.e. limited to economic displacement therefore addressed under IR) on Scheduled Tribe families as per the relevant act/rules of Host country	There are no scheduled tribe communities experiencing adverse impacts.
Proximity to legally protected ecologically sensitive areas, coastal zones or migratory corridors or routes.	Located with core zone of protected areas/Less than 500m from coastal area/Falling within identified migratory corridor of Scheduled I species within 500 mtrs of individual WTG as per the Wildlife Protection Act 1975 for wind projects	Located within the buffer zone of protected areas/Between 500m-1km from coastal area/ Falling within migratory corridor of Scheduled II or III species within 500 mtrs of individual WTG as per the Wildlife Protection Act 1975 for wind projects.	Not located in the vicinity of protected area/ Greater than 1km from coastal area/No identified migratory route or any migratory route or corridor for wind projects within 500 mtrs of individual WTG

The categorization can be done by EHS / deputed team in discussion with the relevant departments and also reviewed and approved by the ESMS committee. ESMS manager will be responsible for intimation of project categorization to internal /external agency, as per the applicability. If required, external E&S specialist/consultants may also be consulted for appropriate categorization (especially for projects internally categorised as Category A).

7.1.3 Stage 3: Environmental and Social Due Diligence

Once the initial screening and provisional categorization has been completed, the respective project will be put through a detailed Environmental & Social Due Diligence in addition to standard due diligences that include legal, financial or governance (applicable in case of asset acquisition). All project categorised will need to undertake Environmental and Social Due Diligence (ESDD) (Refer ***Annexure J2***) and specific scope of these ESDDs will vary with the project categorization. Figure 7.2 provides step-wise requirements from the due diligence process and expected outcomes from the various project categories.

Figure 7.2 Step-wise due diligence Requirements



Summarizing the due diligence process for the various project categories, in-line with above figure:

- **Category A Projects:** For projects with preliminary categorisation as A, an ESDD would be conducted through a third-party agency in order to ascertain critical red flags and potential environmental and social concerns for the project as well as to ascertain overall compliance against the applicable reference framework that will include local statutory requirements as well as ADB and IFC requirements. The ESDD will conclude with an Environmental and Social Action Plan (ESAP). Due to the high-risk nature of these projects, the ESAP in most cases will require a full scale impact assessment study or an ESIA. MEIPL through its ESMS committee will develop project specific Terms of Reference (ToR) for the study and engage a third party for undertaking the study. The ToR would be in alignment with the requirements of ADB, IFC and/or other project stakeholders. A typical ToR for ESIA has been attached with this ESMS as part of Annexure J1. Also, additional or associated risk assessment studies if triggered from the ESDD or are sector specific (for example bird monitoring study) would be commissioned at this stage. If a project is classified as Category A all relevant project stakeholders will be consulted and involved early in the due diligence and review process for the Environmental and Social Impact Assessment (ESIAs).

- **Category B Projects:** Projects with preliminary categorisation as B, ESDD would be conducted for the project by MEIPL's internal competent team and an ESAP would be finalized based on the ESDD findings. For category B projects too, an Initial Environmental Examination (IEE) / ESIA study would be conducted through internal/third party agency. MEIPL will develop project specific Terms of Reference (ToR) for the IEE / ESIA study and engage the competent person / consultant (refer Annexure J1). The ToR would be in alignment with the requirements of ADB, IFC and / or other project stakeholders. If the project is categorized as B for any of the safeguard aspects, i.e. environment, involuntary resettlement and indigenous peoples, MEIPL will inform ADB and /or other relevant project stakeholders of its due diligence findings to ensure that identified impacts are properly addressed through planned mitigation measures (developed environmental and social action plan).

- **Category C Projects:** Projects with preliminary categorisation of C, third party due diligence study may not be required and an internal ESDD would be conducted by competent team as per the applicable reference framework and supported by other teams under the overall guidance from the ESMS/ Management Review Committee. To close on gaps that emerge, internal ESAP will be prepared by the EHS team, which will be approved by the ESMS / Management Review Committee. The EHS team will need to report on the ESAP progress in their period reporting to the committee.

The above process of ESDD is tailored for projects where MEIPL will follow the self-development model. However, the process has been modified for cases where MEIPL invests in a project where the project is built and operated by deputed competent contractor. The process has also been tailored for situations when MEIPL is expanding its own project.

Due Diligence of Land In-Case of A Government Acquisition Process

MEIPL as a company does not favour direct acquisition of land through government for any of its projects. In case of indirect acquisition where the government or other third party acquires land and allocates it to MEIPL as part of any functional policy, an ESDD (internal or external) will be carried out. This will include a review of the Land Acquisition process based on available secondary information, land and revenue records obtained on a best-effort basis, site visits, consultations with affected persons (if any) and discussions with the revenue department officials, to highlight and prioritize issues and gaps and recommend feasible mitigation measures. Furthermore, any such audit will take into context land acquisition that has been carried out only in the preceding five years.

Acquisition Projects/Projects where MEIPL is not the project developer (Turnkey)

In such cases, before MEIPL invests in the project, it will undertake the categorization process and accordingly conduct an ESDD either internally or through a third party. The ESAP that will emerge will need to be negotiated with the contractor, as a number of actions would need to be their core responsibility while the remaining needs to be led by MEIPL. It is understood in this case that MEIPL may have varying levels of influence on the contractor depending upon the size of their investment. In case of acquisition of an existing project or project which is under construction, MEIPL will undertake an environmental and social compliance audit as part of the ESDD process. This will include onsite assessment to identify past or present concerns related to impacts on the environment, involuntary resettlement and indigenous peoples. Appropriate measures/action plan will be prepared to address outstanding compliance issues. Once agreed, MEIPL will need to monitor the implementation of the ESAP by both parties.

Proposed Expansions:

In case MEIPL plans to expand an existing project in which it is invested in, it will undertake an ESDD based on the categorisation of the expansion project. While the ESDD will focus on the expansion project and requisite ESIA/IEE prepared for such expansion, it will consider risks from the existing project too and how these could impact the expansion. It is assumed that the existing project will reflect the commitments, capacities and performance of MEIPL. In case there are outstanding issues from the existing project ESMP, these will be addressed as a part of the project expansion ESDD / ESIA. Cumulative effects will be considered in detail in ESDD / ESIA.

The ESDD will present the final categorisation of the project, which may vary from the original project categorisation. The ESDD will provide the justification for the categorisation.

The ESMS Manager/ Management Representative is responsible to communicate the MEIPL's Investors on the categorization with adequate justification and explanations. MEIPL will respond to clarifications and details sought by the Investors. It is expected that the Investors will either give a go ahead with the categorisation selected by MEIPL or will agree with MEIPL on a category change.

Typical steps of ESDD process are:

- **Information Review:** Review of relevant documents and information provided by the project proponent and other sources such as completed E&S questionnaires, screening checklists, existing Environmental and Social Impact Assessment (ESIA)/Initial Environmental Examination (IEE), ESMP, in case of brownfield or acquisition projects, compliance documents or other relevant documentation including those available in public domain;
- **Site Assessment:** Site reconnaissance comprising visual observations of relevant areas and meetings and interviews with relevant stakeholders (project personnel, governmental officials, affected communities etc.);
- **Gap Assessment Report and Action Plan:** Upon completion of the E&S assessment, an evaluation will be undertaken to identify outstanding E&S issues requiring management or mitigation which will be presented in the ESDD report and ESAP will be formulated. The outcome of the ESDD process will be an Environment and Social Action Plan (ESAP) for the project/ investment.

The ESAP will incorporate:

- **Results from the ESDD and gap assessment** – key risks, impacts and non-compliance issues;
- Set of mitigation, management, monitoring and institutional measures Mitigation measures, resources, responsibilities and timelines.

7.1.4 Stage 4: Impact Assessment Study

The ESDD of category A and B project will in most likelihood, require an ESIA to be conducted or an existing ESIA to be updated to the meet the requirements of Mytrah. This will include undertaking impact specific studies (Environmental and Social Impact Assessments), preparation of an Environmental and Social Management Plans (ESMP), providing adequate capacities and resource to mitigate the impacts, ensure proper documentation, monitoring and reporting. These studies will be undertaken by an external agency and its scope and coverage will meet the requirements as embodied in national laws and regulations on environment and labor, safeguard requirements defined in this ESMS. Please refer to ***Annexure J1*** for typical ToR has been developed by MEIPL for the ESIA.

7.1.5 Stage 5: Investment Decision

The final Environmental and Social Due Diligence Report and summary note will be considered by the MEIPL together with the results of the other due diligence (legal, financial, technical etc.) conducted on the asset by MEIPL's Top management to take an appropriate investment decision.

It is to be noted that for Category A projects on any of the three safeguard categories, the investment decision would be guided by the ESAP as well as the ESIA / ESMP studies / additional studies (if required) and outcomes. In Category B and C, the investment decision will be based on the ESDD report and ESIA / IEE studies can be undertaken in parallel though construction activity will be avoided before completion of base line monitoring for ESIA / IEE study.

7.1.6 Grievance Redressal Mechanism

MEIPL has established a mechanism to receive and facilitate the resolution of affected persons' concerns and grievances about physical and economic displacement and other project impacts, paying particular attention to the impacts on vulnerable groups. The grievance redressal mechanism is scaled to the risks and adverse impacts of the project. It addresses affected persons' concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate and readily accessible to the affected persons at no costs and without retribution. The mechanism does not impede access to the country's judicial or administrative remedies. In self-development model, during pre-project implementation, MEIPL will inform affected persons about the mechanism, otherwise MEIPL will suitably monitor the mechanism through its turnkey contractor at project/asset level. MEIPL may involve third party on GRM process considering the merit and sensitivity.

7.1.7 Stage 6: Ongoing Monitoring and Reporting

Post investment, it is Asset Management team's responsibility to ensure that commitments made under the ESDD, ESAP, ESMP and other studies are met and project construction and operations meet the necessary requirements through respective departments with active involvement of Site In-charges. Regular monitoring of performance and commitments is done and reports provided to the ESMS/ Management Review Committee and the Investors. Also refer to Section 8 and 9 for the same.

7.2 ESMS Framework & its Implementation across project lifecycle

The following tables (Table 7.2 to Table 7.7) discuss the E&S management strategy of MEIPL. They summarize the key activities, along with the anticipated E&S risks/impacts or E&S elements to be captured at each stage, mitigation measures, specific frameworks, tools, responsibilities etc.

Though in a typical wind power or solar power project, the various stages of the project are followed like in any detailed project; sometimes the stages may overlap in order to speed up project execution.

These tables would be used as the key reference tools for internal management of E&S risks for all projects (across various lifecycles) by the EHS manager/ Management Representative and ESMS/ Management Review Committee. Furthermore, it is to be noted that this table is applicable when MEIPL is both the developer and operator. In case of turnkey contractors. The tools annexures referred to in the following tables are subjected to iterations based on E&S site sensitivities.

Table 7.2 Project activities and Typical E&S risks identification and management during Project Conception

Activities/ Processes Involved	Sector specific applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
• Resource assessment of solar potential/ wind potential and economic feasibility • Assessment of possible sites and technologies to be used in project development • Financial and cost-benefit analysis	• Wind and Solar	• Feasibility of local policy structure for setting up of solar or wind project setup with respect to land uptake • Capability of the local administration and performance in dealing with social issues, specially land acquisition and the responsiveness of the administration; • Higher level environmental risks that can be critical to the establishment of the project or potential red flag issues such as seismicity, past incidences of floods, presence of eco sensitive zones, impacts on tribal land, local socio-political scenario, history of social resistance significant displacement or livelihood concerns etc.	• Understanding of higher level E&S risks and potential impacts associated with assessed sites. • Identified E&S issues shall be categorised on basis of its perceived impact on environment and social. The categorization and assessment of risks at this stage will be largely limited to information available from secondary sources. • Data of earthquakes, floods, heavy rainfall can be collected and assessed using secondary sources like Indian Climatological Tables, Seismic Map of India, Geological maps of India etc.

Information to be collected during this stage	Indicative Sources of Information
• Technical data for solar and wind potential • Any enabling Policy of State for wind/solar power project. • Presence of ecologically sensitive habitats. • Regulatory requirements with respect to Environment and Social issues specific to the state where project is being considered	• MNRE, Indian Meteorological Department, NASA's Surface Meteorology and Solar Energy data set, METEONORMs global climatological database, satellite derived geospatial derived data products from National Renewable Energy Laboratory, Solar Energy Centre etc. for solar projects and Centre for Wind Energy Technology (CWET) for Wind projects. • State and central administrative departments

Information to be collected during this stage	Indicative Sources of Information
• Media reports and reported Environment and Social issues from the State • Status of existing projects in the state with respect to EHS issues • Proposed plans for power sector in the five-year plan.	• Local and national media • Educational and academic institutions • World-wide web

Key EHS & Social Risk Management Activities to be implemented	Framework/Tools/Checklist	Reference Annex	Responsibility
• Include critical environmental and social risks assessed from higher level review into the decision making process for project development.	-	-	• BD/Project team to take suggestions and recommendations from

Table 7.3 Project activities and Typical E&S risks identification and management during Site Selection and Feasibility stage

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
Site Selection • Identification, evaluation of possible sites from E&S risks perspective. • Ease of availability of land and its associated social and environmental liability is also considered alongside land cost.	• Site evaluation to assess the site with respect to distance from sensitive receptors.	• Conduciveness of Site to support structures to be installed. • Proximity of the site to Sanctuaries, National Parks, Reserve forest, protected forest, or reserved land, presence of endangered species/migratory path/corridor for threatened species.	• Site reconnaissance survey for evaluating the E&S scenario at the site level should be undertaken by the EHS team and sector specific experts (such as social expert, biodiversity expert geologist etc.) as per requirement and necessity.

• Developing understanding of the local laws and regulations applicable for the state or the local area as well as take into consideration lender or investors requirement such as those prescribed by ADB or IFC • Primary reconnaissance survey of selected sites supplemented with secondary information like topography maps, satellite imagery and media reports etc. • General layout with preliminary siting; **Feasibility:** • It involves finalizing conceptual design of the project, demand estimation, approximate costs for development, construction and operation of the project and predicted revenue, permitting requirements etc. • Assessment of environment and social suitability based on inputs from resource assessment and site selection stages; • Review existing technical documentation, relevant regulations, energy market requirements, environmental requirements and identification of social barriers and opportunities;		• Project disruption and potential closure risk due to not getting permission for Sites which are near to the ecologically sensitive zones or delays in getting permission from Government Department. • Potential regulatory challenges in the environmental, land, labour or community domains that can trigger incessant delay to the project and deem it non-feasible • Tribal Population and location in a 5th or 6th Scheduled Area as defined by the Constitution where purchase of land by non-tribal entities may be prohibited or may involve diversion of land which may need special permission from Panchayats and Collector. • Potential impact of displacement and socio economic impacts on the local community, impact of other land users on site. • Assessment of local resource availability for the project which involves sourcing of labour and assess any security issues;	• The EHS Head, with guidance from the ESMS/ Management Review Committee shall identify the team for the site survey based on skill, experience, local knowledge of the place, people and language. • Output from site screening and reconnaissance exercise can be captured in the site screening checklist which has been developed as part of this ESMS. • The checklist will probe into details of the key E&S risk factors identified in the adjacent column. • Follow the developed land procurement procedure as part of this ESMS for undertaking the land screening and procurement process for the identified sites in parallel to the E&S screening process • The Land team would be assisted by the EHS department and relevant personal in evaluating land for the project • Refer to register of regulations developed as part of this ESMS for the wind and solar sectors for broad level referencing to requisite regulations and applicable international requirements such as ADB's SPS 2009 and IFC Performance Standards 2012

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
• The E&S risks are combined and evaluated alongside the techno-economic feasibility to present a business case to the MEIPL management. • The output of the feasibility shall provide decision making support for each of the shortlisted sites based on technical, financial, economic, environmental and social aspects.		• Risks of shadow flicker effect, blade glint effect, increase in ambient noise levels, long term visual impact on the community in case of wind projects. • Reputational risks and possibility of protests and other security risks etc. • Cumulative impacts due to existing/ planned project.	

Information Collection	Indicative Sources of Information
• Geological details • Meteorological data • Forest and wild life information • Topo-sheet from survey of India • Demographic details from Census of India • Regulatory requirements from relevant state departments • Cultural issue from local administration • Details of sensitive and vulnerable receptors from topography sheets, gazetteers etc., interaction with relevant State Department. • Satellite imagery • Land availability with respect to project plan • Flow details and water requirement at site and in catchment area;	• Geological Survey of India • Indian Meteorological Department • State Forest Department • State Environment Department • Census of India • Local Administration

Summary of Key EHS & Social Risk Management Activity	Framework/Tools/Checklist	Reference Annexure	Responsibility
• Undertake site screening activities to evaluate E&S risks	• E&S screening checklist	• Annexure E	• BD/Land team / designated function with the help of EHS Team of Asset Management Department
• Trigger the land screening and procurement process at this stage as per the requirement stipulated within the land procurement procedure of MEIPL	• Land procurement procedure	• Annexure F	• Land Development Team
• Refer to register of regulations for developing broad level understanding of the regulatory requirements and lender/ investor requirements that may be triggered for the identified sites	• Register of Regulations	• Annexure D	• Reference as per the respective requirements of various teams including EHS, Land, Legal and HR&FMS

Table 7.4 Project activities and Typical E&S risks identification and management during project Planning and Scheduling stage

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)

• Detailed Project Report (DPR) preparation for selected site and preparation of preliminary plant layout;
• Commencing Land Procurement
• Commencing specialized studies for selected site- topographical survey, soil investigation, freezing layout, ESDD/ ESIA study
• Stakeholder consultations and engagement
• Obtaining relevant permits, licenses and approvals
• Tendering stage and awarding work to the contractors which involves the following tasks:
  • Scoping of Contractor work and tasks
  • Request for quote/proposal
  • Identification of contractors
  • Shortlisting of contractor
  • Negotiation and finalization of contract terms and conditions
	• Wind and Solar	• Inclusion of Environmental and social elements in the project DPR prepared including details on environmental parameters including physical environment, biological and socio-economic environment and physical cultural resources, etc.
		• Comprehensive detailing of environmental and social profiling and impact assessment in environmental and social due diligence or impact assessment studies
		• Land related issues specifically when land is acquired following the Land Acquisition Act for the project and not purchased via willing buyer-willing seller negotiated settlement
		• Some of the typical concerns associated with land include:
		  • Issue of compensation in case of land acquisition especially keeping in mind the market rate and the valuation of assets;
			• Conduct detailed ESDD in order to assess social, cultural, environmental, health and safety risks in accordance with the Performance Standards and ADB requirements. Refer Annexure J1 for ESDD template.
			• Categorize the project based on the E&S screening checklist and if any of the 3 safeguard aspects are triggered, commission an impact assessment study.
			• Develop ToR in commensuration with requirements of ADB and IFC.
			• A standard TOR for ESIA has been developed for detailed study has been developed as part of the ESMS. (Refer Annexure J1)
			• Formulation of site specific management plans which meets the ADB E&S requirements and IFC performance standard requirements.

• Finalization of contract or work order.		• Issue of tribal lands, especially if Panchayats Extension to Schedule Areas (PESA) is applicable and also otherwise; • Physical or economic displacement of settlements in case there is requirement of resettlement and rehabilitation triggered either by statutory requirement or investor requirement (ADB or IFC); • Conflict arising from Local level (Panchayat level) consultations; • Issue of land ownership and Right of Way; • Addressing the rights of informal occupants or people depending upon the land in any way for their livelihood such as sharecropping or access to grazing land; • Effect on land based livelihood;	• Conduct detailed ESDD in order to assess social, cultural, environmental, health and safety risks in accordance with the Performance Standards and ADB requirements. Refer Annexure J1 for ESDD template. • Categorize the project based on the E&S screening checklist and if any of the 3 safeguard aspects are triggered, commission an impact assessment study. • Develop ToR in commensuration with requirements of ADB and IFC. • A standard TOR for ESIA has been developed for detailed study has been developed as part of the ESMS. (Refer Annexure J1) • Formulation of site specific management plans which meets the ADB E&S requirements and IFC performance standard requirements. • The ESMS Committee shall identify individuals at the project site level to undertake responsibilities identified under each plan.

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
		• Significance of impact on customary rights of use and access to land and natural resources; socioeconomic status; cultural and communal integrity; health, education, livelihood and social security status; and the recognition of indigenous knowledge of schedule tribes families and communities • Common property resources and effect on the local population in case of land acquisition; • Issue of sites with cultural heritage importance. • Absence of stakeholder engagement mechanism or redressal mechanism for grievances • Risks related to permits and approvals • Inadequacy of obtaining key approvals and permissions for prior start of construction within stipulated time frame; • Non-Compliance to regulatory requirements leading to delay of construction and mobilization	• E&S criterions to be included in the contractor evaluation process. Typical E&S criterions have been provided along with this ESMS. • Land/BD team to identify land based impacts as part of the initial land screening process • Land team to review the ESDD outcomes from the report and put into implementation suggested mitigation measures as per the action plan outcome from the study • In case land based impacts such as resettlement and rehabilitation, impact or any socio-economic status of the community is identified as per the ESDD, the TOR to be developed for detailed assessment of land based impacts as part of the ESIA study by the Land Team in association with the EHS team • Base line data collection and monitoring for the ESIA study to be conducted d prior to start of major construction activities at the project site.

			• The inputs from the ESIA study to the project finalisation shall include in details the following element in the Environment and Social Management Plan:
			  • Environment Management and Action Plan
			  • Health and Safety Management Plan
			  • Social Action Plan
			  • Resettlement and Rehabilitation Plan (if required)
			  • Biodiversity Conservation Plan (where required)
			• To avoid delays regarding regulatory approvals, the process for obtaining permissions will be initiated in the initial stages of the project itself.

Summary of Key EHS & Social Risk Management Activity	**Framework/Tools/Checklist**	**Reference Annexure**	**Responsibility**
• Conduct ESDD in order to assess social, cultural, environmental, health and safety risks in accordance with the Performance Standards and ADB requirements.	• TOR of ESIA Study	• Annexure J1	• ESDD/ESIA to be conducted through third party agency and guided internally by EHS department. If ESIA is triggered, ESDD is not mandatory due to coverage of the same

Summary of Key EHS & Social Risk Management Activity	Framework/Tools/Checklist	Reference Annexure	Responsibility
• Categorize the project as per the due diligence exercise and if triggered, commission an impact assessment study. ***(Refer to Section 7)*** • Develop ToR of ESIA study • In case ESIA is triggered, commission ESIA study for the project • The base line study / monitoring of ESIA study conducted to be mandatory prior to start of major construction activities at the project site • In case land based impacts such as resettlement and rehabilitation, impact or any socio-economic status of the community is identified as per the ESDD, the TOR to be developed for detailed assessment of land based impacts as part of the ESIA study by the Land Team in association with the EHS team			• TOR for the ESIA be developed by EHS department in association with investors or taking into consideration investor/lender requirements or requirements from associate teams such as Land • ESIA to be carried out by third party agency and the study internally guided by the EHS department (excluded for category C)

• The inputs from the ESIA study to the project finalisation shall include in details the following element in the Environment and Social Management Plan:
  • Presence of ecologically sensitive habitats. Environment Management and Action Plan
  • Health and Safety Management Plan
  • Social Action Plan
  • Resettlement and Rehabilitation Plan (if required)
  • Scheduled Tribes Development/Indigenous Peoples Plan
  • Biodiversity Conservation Plan (where required)
  • Stakeholder Engagement Framework
  • Grievance Redressal Framework
• The plans will be incorporated into the project activities with specified roles, responsibilities, manpower and timeline.
	The following sample plans have been provided with this ESMS:
	• Generic ESMP for wind and solar power projects
	• Outline of Resettlement and Rehabilitation Plan
	• Stakeholder engagement framework
	• Grievance Redressal Framework across Project
		• Annexure L
		• Annexure G
		• Annexure H
		• Annexure I
			• Overall management plans implementation would be overseen by the ESMS committee/ MRC and the EHS manager / MR
			• Specific role and responsibility would be defined as per requirement of the respective plan and the desired technical expertise from the various team including EHS, Land, CSR, HRGA etc. with active involvement of Site- In charges

• E&S criterions will be included in the contractor evaluation process. Typical E&S criterions have been provided along with this ESMS.	• Checklist with typical E&S criteria to be considered for vendor and contractor evaluation	• Annexure K	• Project / Asset management department assisted by EHS

Table 7.5 Project activities and Typical E&S risks identification and management during Mobilization and Construction stage

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
• Finalisation of construction design, schedule, methodology and integration of different activities. • Hiring of contractors for various construction related activities • Movement of Material and machinery, • Construction and related activities including site clearance and boundary wall construction - foundation activities, erection of modules/WTG's, installation of mechanical and electrical components, construction of site offices, switchyards, laying of transmission line construction of roads and drains etc. • Erection, installation, testing and commissioning of SCADA equipment's.	• Wind and solar projects	**Social and associated issues:** • Contractor and Labour and Workforce Management at construction sites and labour camp due to construction works (if required). The anticipated peak labour requirement for solar power projects vary from scale of the project and it is expected to vary from 150-300 labourers and for wind will vary from 80-100 workers for any project • Influx of labour at site (both local and migrant) • Compliance with national requirements with respect to minimum wage and other social benefits (e.g. payment of ESI, provident fund, etc) • Hygiene and Sanitation facilities at off-site living and accommodation facilities and workplace facilities (as per the applicability) • Onsite labour practices (use of child or forced labour) and other core labour standards such as non-discrimination and freedom of association	• Contractor should be made aware of EHS issues • Ensure that contractor carries a valid registration and licence to operate • Ensuring that no child or forced labour is engaged • Ensuring provisioning of adequate Personal Protective Equipment (PPE), first aid, medicines • Ensuring labour camps are provided with all facilities and amenities. • Ensure proper sanitation and access to potable water supply in labour camps. • Ensuring responsibility centres and supervisors are identified by contractors and that they are aware of all H&S requirements. • Ensure proper fencing of the site and construction materials to avoid thefts and also to prevent community does not get impacted because of issues like effect on the livestock or children who may get hurt because of easy access to the construction site.

		• Issues related to vulnerable labour groups (migrant, women, old aged etc.);
		• Workforce community conflicts;
		• Risks of diseases due to increase in number of labour camps and migrant workers;
		• Risks of thefts and misappropriation and associated risks of spoiling community relation;
		Environmental Issues:
		• Environmental related impacts associated with construction phase are:
		  • Soil Erosion: Loss of top soil cover due to site excavation activities and due to removal of vegetation;
		  • Air quality degradation due to fugitive dust emissions; vehicular and equipment emissions; emissions from point sources (if any) which can lead to change in baseline air quality and can affect health of engaged labourers and nearby community;
		  • Increase in baseline noise levels due construction activities, vehicular movement, movement of equipment's etc.
			• Ongoing engagement with the community during construction phase of the project to address community grievances if any related to the construction activities.
			• Ensure loose soil kept at the site is well protected to avoid loss from wind and water erosion.
			• Ensure reduction and control of air emissions from construction activities by minimising dust from material handling sources using effective stockpile management techniques and water sprinkling, providing adequate stack height for DG sets etc.
			• Ensure mobile noise sources such as cranes, earth moving equipment and heavy motor vehicles are routed in such a way that there is minimum disturbance to the community.
			• Ensure adequate treatment and disposal of wastewater generated from construction site and labour camps
			• Ensure minor quantities of hazardous waste generated at the Site during construction stage is handled, stored and disposed in accordance with the regulatory requirements

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
		• Increase in baseline noise levels due construction activities, vehicular movement, movement of equipment's etc. • Wastewater Discharges: Generation of domestic wastewater from labour camps and site office if not managed properly can occur as a breeding ground for diseases and can lead to unhygienic conditions; • Solid and Hazardous Waste: Improper storage and disposal of domestic and hazardous waste generation from construction activities can create unhygienic conditions. The typical domestic waste generated from construction activities and labour camps include packaging materials, containers and used oil from diesel generator etc.	• Ensure contractors have adequate systems in place • Work permit system established to be strictly followed

		Health & Safety Issues: • Occupational Health and Safety issues like risks involved with hot work, scaffolding, platforms & ladders, road work, work at height, handling and lifting equipment, vehicle movement, electrical work, man machine interface, fire risks etc. • Failure of electrical systems installation such as appropriate electrical wiring and cabling resulting in worker accidents; • Risks of accidents due to heavy movement of traffic	
Summary of Key EHS & Social Risk Management Activity	**Framework/Tools/Checklist**	**Reference Annexure**	**Responsibility**
• Assess quality of workers camps, sanitation facilities for the onsite labourers as per the developed workers accommodation checklist	• Labour camp monitoring guidelines/checklist for labour camp	• Annexure M	• Project manager/ Site In charge under guidance of EHS team
• Assess the adequacy of occupational Health and safety measures at the camp site during the construction phase of activities • Project Site In charge during construction phase of activities for managing onsite health and safety	• EHS Manual / EHS plans for contractors • EHS Audit format during construction for wind and solar projects	• Annexure P1	• Project manager/ Site In charge under guidance of EHS team

Summary of Key EHS & Social Risk Management Activity	Framework/Tools/Checklist	Reference Annexure	Responsibility
• Train the contractors on the EHS requirements as specified under the EHS manual developed by MEIPL	• Training records		
• Ensure implementation of mitigation measures as specified in ESMP/action plan for construction phase activities	• EHS Audit	• Annexure P1	• Project Site In charge
• Address community and other stakeholder grievances related to construction phase activities	• Ongoing GRM and stakeholder engagement framework	• Annexure I • Annexure H	• Project Head, O&M Head, Onsite manager, HR/EHS/CSR person (as applicable)

Table 7.6 Project activities and Typical E&S risks identification and management during Operations and Maintenance stage

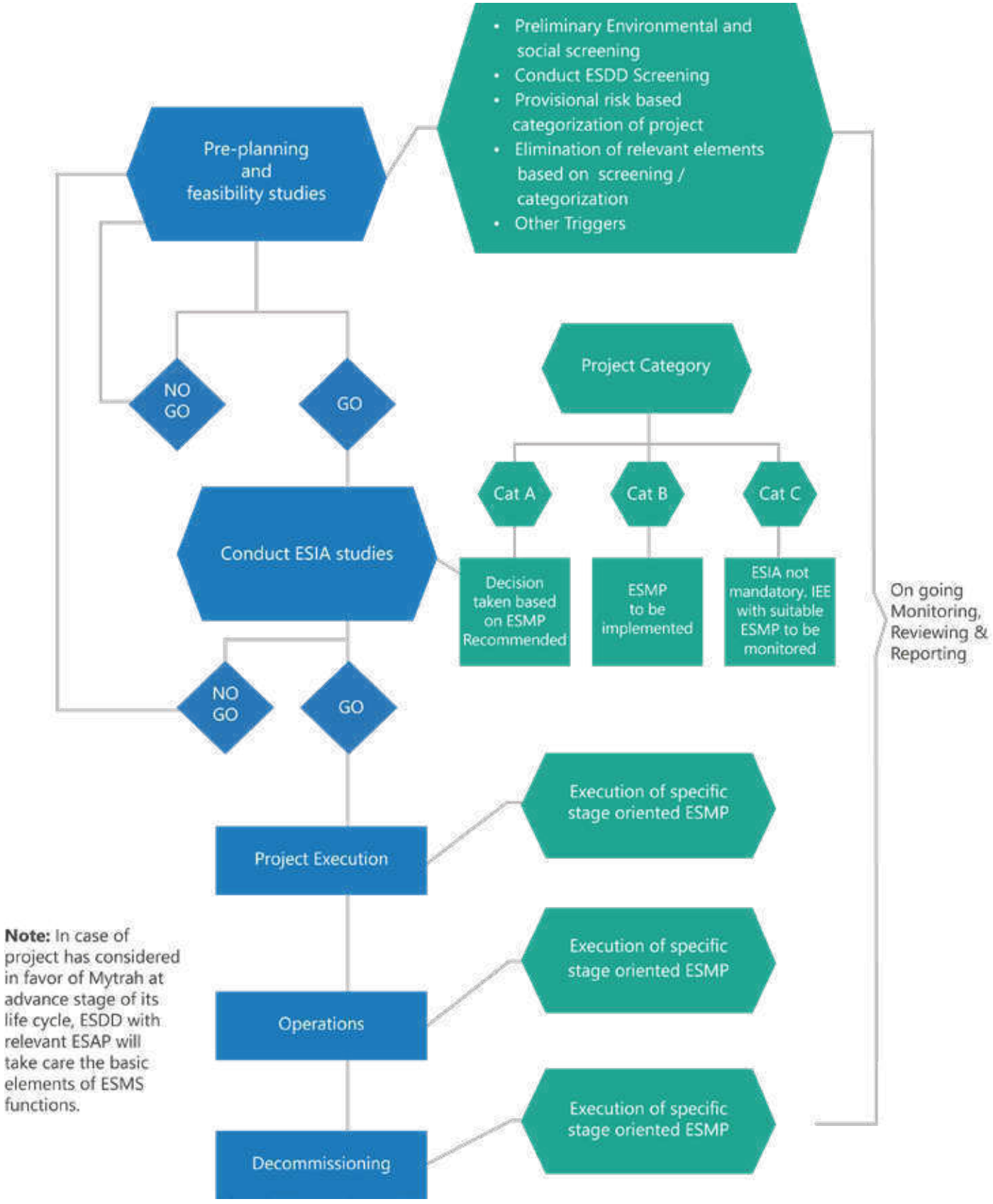
Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
• Day to day operations; • Regular operation and maintenance of Switch yards and Solar Panels/Wind Turbines; • Communications infrastructure;	• Wind and Solar	• Risks/ impact elements common to both Solar and wind power projects are: • Fire and electricity hazards; • Vehicle movement • Working at height • Lightening • Improper handling and disposal of hazardous waste (if any) and domestic waste;	• Emergency evacuation procedure to be in place • Health and safety training especially related to electricity • Waste disposal mechanism () in accordance with applicable legal requirement • Noise control and monitoring mechanism • Training of the operation and maintenance staff.;

		• Key risks specific to wind operations are:
		  • Shadow Flicker effect and Blade glint;
		  • Bird/bat strikes
		  • Impact on community due to associated noise and visual impacts;
		• Key risks specific to solar operation is increase in microclimatic temperature for large scale solar projects and glare effect.
			• Ongoing engagement with the community during operation of the project to address community grievances if any related to the project operations.
			• Monitoring and implementation of ESMP/action plan developed as part of impact assessment study.

Summary of Key EHS & Social Risk Management Activity	**Framework/Tools/Checklist**	**Reference Annexure**	**Responsibility**
• Assess the adequacy of onsite emergency and response mechanism such as emergency evacuation, fire alarm systems	• Onsite emergency response plan		• Site In-charge
• Ensure implementation of mitigation measures as specified in ESMP/action plan for operation phase activities	• ESMP monitoring and reporting format	• Annexure O	• Site In-charge
• Address community and other stakeholder grievances related to operation phase activities	• Ongoing GRM and stakeholder engagement framework	• Annexure I • Annexure H	• Project Site In charge

Table 7.7 Project activities and Typical E&S risks identification and management during De-commissioning stage

Activities/ Processes Involved	Sector specific Applicability	E&S Risks/Impacts/Elements to be considered	Recommended Risk/Impact Mitigation and Management Measure(s)
• Dismantling of panels/wind turbines and associated electrical infrastructure (main control room, invertor room) and switchyard/substation structures; • Restoring site to earlier condition; • Movement of Material and machinery.	• Wind and Solar	Aspects involved in decommissioning phase are: • Labour management • Waste management (including hazardous waste management) • Occupational Health & Safety • Community Safety	Ensure proper handling and management of waste generated from the decommissioning activities Develop a waste handling and management plan prior to commencement of decommissioning activities
Summary of Key EHS & Social Risk Management Activity	**Framework/Tools/Checklist**	**Reference Annexure**	**Responsibility**
• Ensure implementation of mitigation measures as specified in ESMP/action plan for decommissioning phase activities	• ESMP monitoring and reporting format	• Annexure O	• Site In charge



Note: In case of project has considered in favor of Mytrah at advance stage of its life cycle, ESDD with relevant ESAP will take care the basic elements of ESMS functions.