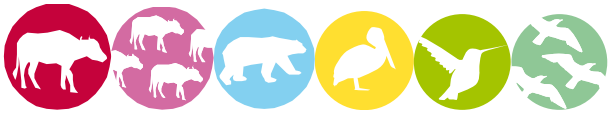
ANNEX R – PASSPORT TEMPLATE

CONTENTS



SECTION A. Project Title

[See Toolkit 1.6]

Title: 20 MW Solar Project in Sanwreej, Jodhpur, Rajasthan

Date: 28/02/2018

Version no.: 03

SECTION B. Project description

[See Toolkit 1.6]

Estimated project start date: The start date of the project activity is 20/07/2016, it corresponds to date of Purchase order issued to the project equipment supplier.

The main purpose of this project activity is to generate clean form of electricity through renewable Solar PV energy source. Janardan Wind Energy Pvt. Ltd. (JWEPL) is the promoter of the proposed project activity. The project activity involves installation of 10 MW_{AC} (Project-I) & 10 MW_{AC} (Project-II), totalling to 20 MW_{AC} (corresponding to 22.5 MWp) solar power project under Jawaharlal Nehru National Solar Mission (JNNSM) Phase-II, Batch-II (DCR Category).Both the projects are installed in the same project boundaryat Village: Sanwreej, Teshil: Phalodi, Disrtict: Jodhpur, State: Rajasthan.

The electricity generated from project activity will be sold under the Power Purchase Agreement (PPA), signed with NTPC Vidyut Vyapar Nigam (NVVN) Ltd. The electricity generated from the project activity will be evacuated through 132 kV sub-station located at Sanwreej for consumption in the Indian Electricity Grid.

The generated power from this project activity will be supplied to the grid and purchased by NTPC Limited which falls in northern region of the country. The generation of power from Solar is a clean technology as there is no fossil fuel fired or no GHG gases are emitted during the process. Therefore, the project activity led to reduction in GHG emissions as it displaces power from fossil fuel based electricity generation in the regional grid. The annual average GHG emission reduction through this project activity is 34,882 tCO2e. The project leads to reduction in GHGs and achieve sustainable development of the host country.

Project is registered on 12/10/2017 through CDM registration process having CDM registration number is 10392. The project UNFCCC view page can be seen at below web link: http://cdm.unfccc.int/Projects/DB/Applus1501572247.73/view

The implementation of this project activity would contribute to the sustainable development of the region according as stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC). Each of the sustainable development indicators established by the Government of India have been analyzed in the context of the project activity to assess the project's contribution to sustainable development. This analysis appears below.

Economic and Social well-being:

- Employment generation for local people during the construction and operational phases of the project activity. This will improve the socio-economic condition of the local people.
- The project activity will improve power supply in the regional northern grid. The project activity is a small step toward meeting the energy demand of the Indian grid.
- Power generated from this project activity can be used for small scale industries, thus would generate self-employment opportunities.
- The project leads to diversification in the sources of electricity generation.
- The project uses clean and efficient technologies, and conserves natural resources.

Environmental well-being:

- The generation of electricity from Solar PV is one of the cleanest and sustainable ways to generate electricity. Solar power produces no toxic emissions and none of the GHG gases that contribute to global warming, thereby leading to emission reductions.
- Being a renewable resource, using solar energy to generate electricity contributes to resource conservation. The project causes no negative impact on the surrounding environment contributing to environmental well-being.

Technological well-being:

The proposed project activity is using clean Solar PV technology. The applied technology is considered as one of the most environmental safe and sound technologies available as the operation of the Solar PV power unit does not emit any GHGs or any other harmful gases unlike the operation of conventional power plants.

The project activity aims to harness solar energy through installation of PV with total installed capacity of 20 MW_{AC} (corresponding to 22.5 MWp). The solar PV power plant will have solar PV modules, inverters, transformers and other protection system and supporting components as under:

A. Solar PV modules:

Module Supplier	Module Model	Capacity (p)	Number	Total Capacity (MWp)
TATA Power Solar Systems Ltd.	**TP 303** series	303	19520	5.91456
	TP 306series	306	9920	3.03552
	TP 309series	309	19200	5.9328
	TP 312series	312	16960	5.29152
	TP 315series	315	7360	2.3184
			TOTAL CAPACITY	22.4928

B. Inverters:

S.No.	Make	10 MW (Project – I)	10 MW (Project – II)

1.	Manufacturer	Sungrow Power	Sungrow Power
2.	Model	SG2500	SG2500
3.	Rated Capacity	2500 kVA	2500kVA
4.	No. of Inverters	4	4
5	Rated Input Voltage(Max.Input Voltage)	1000V	1000V

C. Transformers

S.No.	**Make**	**10 MW (Project – I)**	**10 MW (Project – II)**
1.	Manufacturer	Danish Private Limited	Danish Private Limited
2.	Model	Oil Cooled	Oil Cooled
3.	Capacity	2800KVA	2800KVA
4.	No. of Transformers	4	4
5.	Voltage Ratio	33 KV/360V	33 KV/360 V

D. Metering Equipment Details

S.No.	**Make**	**10 MW (Project – I)**	**10 MW (Project – II)**
1.	Manufacturer	Secure Make	Secure Make
2.	Type	ABT meters	ABT meters
3.	Accuracy Level	0.2s	0.2s
4.	Total no of meter (Site and Substation)	4	4

The solar PV modules have a useful life of 25 years.

SECTION C. Proof of project eligibility

C.1. Scale of the Project

[See Toolkit 1.2.a]

Please tick where applicable:

Project Type	Large	Small
	☑	☐
	☐	☐
	☐	☐
	☐	☐
	☐	☐

	☐

C.2. Host Country

[See Toolkit 1.2.b]

India

C.3. Project Type

[See Toolkit 1.2.c and Annex C]

Please tick where applicable:

Project type	Yes	No
Does your project activity classify as a Renewable Energy project?	☑	☐

Does your project activity classify as an End-use Energy Efficiency Improvement project?	☐	☑
Does your project activity classify as waste handling and disposal project?	☐	☑

Please justify the eligibility of your project activity:

The Renewable Energy Supply category is defined as the generation and delivery of energy services (e.g. electricity) from non-fossil and non-depletable energy sources. The Project involves generation and delivery of electricity generated from solar energy sources, so the Project belongs to the Renewable Energy Supply category.

The type of the Project is not listed in specific guidance, Annex C of gold standard toolkit, thus there is no specific eligibility criteria for the project activity.

Pre Announcement	**Yes**	**No**
Was your project previously announced?	☑	☐

Explain your statement on pre announcement

The project activity has been announced for CDM stakeholder consultation with the consideration of potential carbon credit revenues from CDM mechanisms. The project proponent has considered potential carbon credit benefits from the very conceptualisation stage of the proposed project activity. This is further evident from the following information regarding prior CDM consideration notifications:

The start date of the project activity is 20/7/2016 (Purchase Order), i.e., after 02/08/2008. The project proponent has sent written notifications of developing the project activity to the Indian DNA and UNFCCC on 15/10/2016 i.e. this is within 180 days of start date.

Project is registered on 12/10/2017 through CDM registration process having CDM registration number is 10392. The project UNFCCC view page can be seen at below web link:

http://cdm.unfccc.int/Projects/DB/Applus1501572247.73/view

C.4. Greenhouse gas

[See Toolkit 1.2.d]

Greenhouse Gas	
Carbon dioxide	☑

Methane	☐
Nitrous oxide	☐

C.5. Project Registration Type

[See Toolkit 1.2.f]

Project Registration Type	
Regular	☐

Pre-feasibility assessment	Retroactive projects (T.2.5.1)	Preliminary evaluation (eg: Large Hydro or palm oil-related project) (T.2.5.2)	Rejected by UNFCCC (T2.5.3)
	☑	☐	☐

If Retroactive, please indicate Start Date of project activity dd/mm/yyyy: The Start date of the project activity is considered based on the Purchase Order that is dated 20/07/2016.

Since the project has applied for Retroactive validation under GS, thus the start date of the crediting period under the GS mechanism shall be maximum of 2 years prior to the GS registration date or date of commissioning whichever is earlier.

SECTION D. Unique project identification

D.1. GPS-coordinates of project location

[See Toolkit 1.6]

The project is located in Sanwreej Village, Phalodi Tehsil, Jodhpur District, Rajasthan State, India. The coordinates for the project activity is provided below.

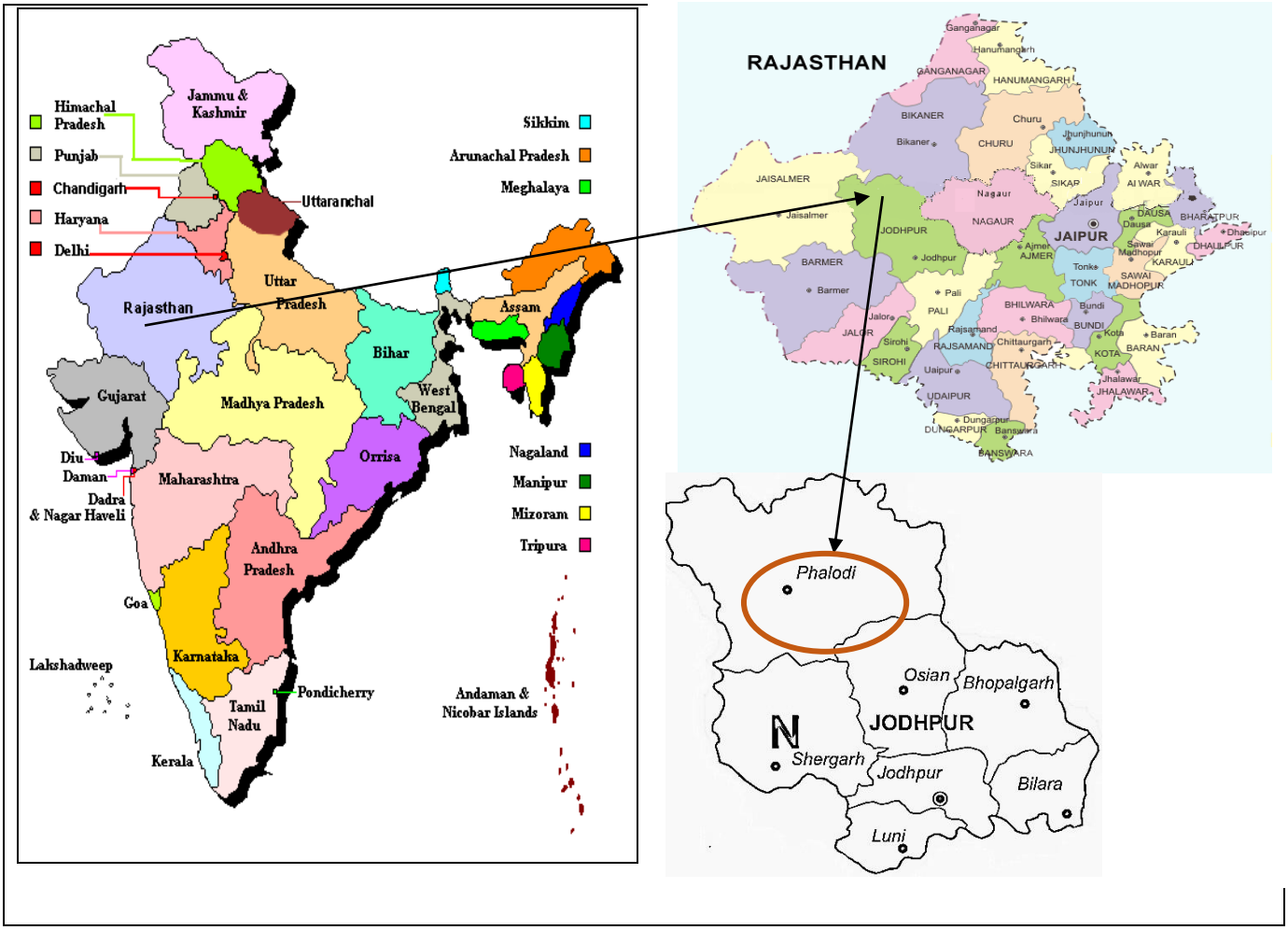
	Coordinates
Latitude	26.98^{o} N
Longitude	72.25^{o} E

Explain given coordinates

The proposed project activity will be implemented in Jodhpur district in the state of Rajasthan. The geo-coordinates of the project activity have been provided above. The available Bus service facility is within village and nearest rail head is 30 km from the project site at Phalodi, whereas the nearest airport is in Jodhpur is 140 km from the project site.

D.2. Map

[See Toolkit 1.6]



SECTION E. Outcome stakeholder consultation process

E.1. Assessment of stakeholder comments

[See Annex J]

It's not necessary for the retroactive project to take Local Stakeholder Consultation; the Stakeholder Feedback Round was organized and corresponding information is described below under Section E.2.

However, LSC process has been carried out considering CDM project activity. A public notice was placed in public place(s) which includes description of the project activity and date of stakeholder meeting. The meeting was organized on 11/07/2016 which was done prior to the Start date (Purchase order which was placed 20/07/2016). The stakeholders were in support of setting such renewable energy projects, no negative feedback was received.

The Local Stakeholder Meetings were organized for local stakeholder consultation and informed local stakeholder regarding the meeting. The following are the stakeholders for the project activity:

- Local community
- Local village administration
- Technology suppliers
- Local vendors

All the stakeholders have been invited through public notice (dated 20 June 2016) which were displayed/ placed to the nearby areas. Further, stakeholders were invited individually to attend the stakeholders meeting. The meeting was held on 11 July 2016.

In the introductory speech, the representatives of Project Participant welcomed the gathering and given a brief about the CDM project activity. Subsequent to the introductory speech, stakeholders were explained about the electricity generation from solar project is an environmental friendly power generation technology contributing to reduction in GHG emissions. They were also explained about the benefits of the solar power projects like, increasing energy availability and improving quality of power and its assistance to the local population by providing employment opportunities to both skilled & unskilled labours.

The supporting for the LSC process (MoM, List of Attendees and public notices) are available and provided to the DOE.

E.2. Stakeholder Feedback Round

Please describe report how the feedback round was organised, what the outcomes were and how you followed up on the feedback.

[See Toolkit 2.11]

The PP has planned for to conduct SFR. The dates shall be planned at a later stage.

The SFR shall be carried out as described below;

- The email invitation sent to relevant stakeholders like NGOs, DNA officials, Gold Standard officials along with project documents dated 17/01/2017

- Documents submitted along with the email include non-technical summary of project activity along with CDM PDD, draft GS passport submission to relevant stakeholders, GS Public view section web link and Grievance procedure.

- Initial CDM PDD and initial GS passport made available in public domain for 60 days (from 16/01/2017 to 16/03/2017) to enable the stakeholders to make comments at the link (http://infisolutions.org/janardan-solar-project-gs-comments/)

- Actual SFR carried out on 03/07/2017

Identification of Stakeholders:

The Stakeholder feedback round has been planned to consider and receive feedback from all the possible stakeholders to the project, i.e. local villagers, farmers, community members, O&M suppliers, local government bodies, O&M operators and employees. Apart from these the stakeholders as identified by Gold standard Board, i.e. Gold standard partnered NGOs and DNA of India (MoEF) were also invited.

Invitations to Stakeholders:

The Stakeholder feedback round has been planned at the project site, i.e Khasra No.283, Village: Sanwreej, Tehsil: Phalodi, District: Jodhpur, Rajasthan. Email invitations were sent to GS partnered NGO's and MoEF, while Individual Invitations were sent to all other stakeholders as identified above apart from individual invitations public notices were put up at plant site, Local School in the village, at the Sub-station and other public areas of nearby village.

Minutes of Meeting:

Mr. Ashwini Kumar from (JWEPL) mediated the meeting and started the meeting by welcoming all the stakeholders. He informed about LNB group and various projects in the area being undertaken and how the area has been benefitted by operation of power projects. He further explained the CSR Policy and projects being carried out as well as planned. On project specific case he explained the whole process right from inception of the project till the current execution levels and future proposed steps and expected commissioning. He shared the long term vision of the company regarding CSR activities to be developed in parallel to the project implementation. He called upon Mr. Jimmy Sah to further explain the CDM and GS requirements and process.

Mr. Jimmy Sah from Infinite Solutions, who are Carbon Consultant introduced to the company and project, explained the agenda for the meeting and why this feedback round is being carried out. He briefly explained how this project applies to CDM and Gold standards mechanism. He explained how such power projects help in providing clean energy and thereby help in mitigating impacts due to Global Warming. He briefly explained the gist of Gold standards prerequisites and sustainability projects in the country. Further, he explained the impacts of solar power projects which lead to providing clean energy, increase in employment opportunities both long term and short term, increased income and thereby leading to improvement in living standard of the people.

He also discussed the sustainable development matrix parameters with the impacts on each by the project along with the monitoring plan for the sustainable development indicators related to the project activity. In the process it was also explained that the impacts assessment process would be done yearly.

He also explained how the project participant (JWEPL) proposes to set up a Grievance procedure where any comment/suggestion could be provided. In line with the GS Requirement – he explained how the project participant proposes to establish continuous input and grievance procedure. As part of the process a Grievance book shall be maintained at the site and same shall be revised to follow the GS template.

He further explained the monitoring of project shall be carried out periodically and the auditors would be visiting and meeting the stakeholders and in case any concerns the same can also be discussed with them.

Further, there were no comments received during the 60 online commenting period.

E. 3. Discussion on continuous input / grievance mechanism

[See Annex W] -

Discuss the Continuous input / grievance mechanism expression method and details, as discussed with local stakeholders.

	Method Chosen (include all known details e.g. location of book, phone, number, identity of mediator)	Justification
Continuous Input / Grievance Expression Process Book	Input/Grievance Register to be maintained at project site office. The format of receiving inputs/complaints is as per GS requirements. The inputs/grievance received shall be processed in line with the procedure.	The administrative office of the plant is located in the plant premises. Thus it is appropriate publicly accessible location at which local stakeholders can provide their feedback on the project. The address of the administrative office is as follows; Janardan Wind Energy Pvt. Ltd. (JWEPL) Khasra No.283, Village: Sanwreej, Tehsil: Phalodi, District: Jodhpur, Rajasthan
Telephone access	Mr. Ashwini Kumar, an employee of the company who is based at the project location is responsible and his mobile number +919672988845 & +91	For those who are unable to travel to site or are not literate, they may contact the Project Implementer via telephone. Persons dialing this telephone number will have access to a

	7424912634 shall be available for any stakeholder to comment.	Project representative who speaks both English and the local language, Hindi.
Internet/email access	JWEPL: 2 email address: 1. Mr. Ashwini Kumar, Solar Division Head: ashwini.kumar@lnbgroup.com 2. Mr. Praveen Kodali, Assistant Manager Project : praveen.kodali@lnbgroup.com Gold Standard: info@goldstandard.org	Two email id of the project Implementer has been provided for continuous input / grievance for the convenience of stakeholders with internet access. Email address for the Gold Standard has also been provided.
Nominated Independent Mediator (optional)	No Independent mediator is assigned. However, Mr. Ashwini Kumar, an employee of JWEPL has been assigned as the point of contact for all the local issues.	The use of a Nominated Independent Mediator is not being employed. As the use of the process book, telephone and internet will sufficiently capture feedback as necessary. However a local employee shall be available in case stakeholders have any comments.

All issues identified during the crediting period through any of the Methods shall have a mitigation measure in place. The identified issue should be discussed in the revised Passport and the corresponding mitigation measure should be added to sustainability monitoring plan in section G.

SECTION F. Outcome Sustainability assessment

F.1. 'Do no harm' Assessment

[See Toolkit 2.4.1 and Annex H]

Janardan Wind Energy Pvt. Ltd. (JWEPL), which is a part of the LNB Group, has Environment, Health, Safety and Social Guidelines for Solar Power Projects. LNB Group, through JWEPL, will have contractual agreement into this effect with contractor.

Safeguarding principles	Description of relevance to my project	Assessment of my project risks breaching it (low/medium/high)	Mitigation measure
1. The project respects internationally proclaimed human	The Project is not in conflict with the economic livelihood of the local community.	Low	Not applicable

rights including dignity, cultural property and uniqueness of indigenous people. The project is not complicit in Human Right Abuses	Thus, the Project does not cause any human rights abuse and respects internationally proclaimed human rights issue. India has ratified the United Nations Human Rights Rules and regulations. India ratified the same as per web link [1] given below. The project adheres to the host country's commitment to Universal Declaration of Human Rights (UDHR) International Covenant on Economic, Social and Cultural Rights, India Accession 10/04/795[2]. International Covenant on Civil and Political Rights India Accession 10.04.796[3]		
2. The project does not involve and is not complicit in involuntary resettlement	The project does not involve any resettlement. In India, Ministry of Rural development has "The National Rehabilitation and Resettlement Policy, 2007[4]. The project activity does not have any major impact on land use patterns. Further, in accordance with Article 1 of the International Covenant on economic, Social and Cultural Rights the project does not complicit in involuntary resettlement. Land has been purchased by PP directly from the owner of the land through direct negotiation of	Low	Not applicable

[1] http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN
[2] http://hrlibrary.umn.edu/research/ratification-india.html and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN
[3] http://hrlibrary.umn.edu/research/ratification-india.html and http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=79&Lang=EN
[4] http://www.dolr.nic.in/nrrp2007.pdf

	commercial terms. There has not been involvement of any government agency in the acquiring the land. The land is acquired on mutual consent between private land owner and PP, thus there are no any issues of dissatisfaction of private land owner.		
3. The project does not involve and is not complicit in the alteration, damage or removal of any critical cultural heritage	No cultural heritage is observed on the project site, thus no harm observed. The site below gives the list of cultural heritage sites in India by UNESCO from which it is clear that the project site does not form a cultural heritage site. Source: http://whc.unesco.org/en/statesparties/in	Low	Not applicable
4. The project respects the employees freedom of association and their right to collective bargaining and is not complicit in restrictions of these freedoms and rights	The proponent confirms that all the fundamental rights of the employees will be respected and there will be no restrictions on freedom of association and right to collective bargaining. The rights of industrial trade unions and their members have been protected by law in India since 1926. The Trade Unions Act, 1926: http://msmestartupkit.com/sites/default/files/knowledge_base/policies_and_regulations/the_trade_unions_act_1926.pdf	Low	Not applicable
5. The project does not involve and is not complicit in any form of forced or compulsory labour	Forced labor is an illegal activity in the host country and the local labor compliance takes into account of the same. http://labour.nic.in/labour-welfare	Low	Not applicable
6. The project does not employ and is not complicit in any form of	The project neither employs nor intends to employ child labour.	Low	Not applicable

child labour	Indulgence in Child labor is an illegal activity in the host country and the local labor compliance takes into account of the same. Source: http://www.indianchild.com/child_labour_law_in_india.htm		
7. The project does not involve and is not in complicit in any form of discrimination based on gender, race, religion, sexual orientation or any other basis	The project will not employ any personnel based on gender, race, religion, sexual orientation or any other basis. As the Constitution of the host country prohibits discrimination on the basis of a person's race, sex, religion, place of birth, or social status. Further, India ratified the International Convention on Elimination of All Forms of Racial Discrimination on 03/12/1968 with certain reservation[5].	Low	Not applicable
8. The project provides workers with a safe and healthy work environment and is not complicit in exposing workers to unsafe or unhealthy work environments	The proponent assures to follow all the safety measures and create healthy working conditions during construction & operation too. The project proponent respects all the acts on health and safety and will follow them. The PP has Health and Safety and Environment policy designed to ensure safe and healthy work environment for all its employees, contractors and all stakeholders.	Low	Not applicable
9. The project takes a precautionary approach in regard to environmental challenges and is not complicit in practices contrary to the	The project falls in White category list of projects and does not require Environmental clearance from Pollution Control Board. The project does not lead to release of any hazardous substances that	Low	Not applicable

[5] http://nhrc.nic.in/documents/india_ratification_status.pdf

precautionary principle.	pose threat to the environment. Rather it aims at reducing the air pollution that is prevalent due to use of fossil fuel power plants. The project promotes environmental protection through the use of cleaner technology. The project abides by the stipulations of the Indian Environment Protection Act 1986[6] . The project proponent has taken considerable steps to mitigate impacts that may arise during construction phase, laying transmission lines, internal roads like usage of using existing roads and lanes, reuse of water for sprinkling in upaved roads, reuse of soil for foundation, avoiding construction and maintenance during times when soil is drenched, installing an exclusion fencing to keep livestock away from construction activities.		
10. The project does not involve or complicit in significant conversion or degradation of critical natural habitats including those that are (a) legally protected, (b) officially proposed for protection, (c) identified by authoritative sources for their high conservation value or (d) recognised as protected by traditional local communities	It is confirmed that the project is not in the proximity of any critical natural heritage site on the World Heritage list. Host country ratification of the World Heritage Convention (1977): http://whc.unesco.org/en/statesparties/ The project has been developed with transparent communication with local communities.	Low	Not applicable

[6] http://envfor.nic.in/legis/env/env1.html

11. The project does not involve and is not in complicit in corruption	Indulgence in corruption is an illegal activity in the host country and the local labor compliance takes into account of the same. The project abides by the United Nations Convention Against Corruption. India ratification 09.05.11[7].	Low	Not applicable
Additional relevant critical issues for my project type	**Description of relevance to my project**	**Assessment of relevance to my project (low/medium/high)**	**Mitigation measure**
Not identified	Not relevant	No risk	Not required

F.2. Sustainable Development matrix

[See Toolkit 2.4.2 and Annex I]

Insert table as in section D3 from your Stakeholder Consultation report (Sustainable Development matrix).

The report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013[8]. This report clearly mentioned that solar farms operations do not result in direct air pollution, noise pollution.

The operation and Maintenance shall be carried out by the Project proponent along with contractors employed. The PP follows a Health, Safety and Environment policy applicable to all its employees, contractors and stakeholders ensuring a good working environment.

Based on above, the score mentioned below along with justification for each.

Indicator	**Mitigation measure**	**Relevance to achieving MDG**	**Chosen parameter and explanation**	**Preliminary score**
Gold Standard indicators of sustainable development.	**If relevant copy mitigation measure from "do**	Check **www.undp.or/mdg** and **www.mdgmonitor.org**	**Defined by project developer**	Negative impact: score '-' in case negative impact is not

[7] http://www.unodc.org/unodc/en/treaties/CAC/signatories.html
[8] http://mnre.gov.in/file-manager/UserFiles/report-on-developmental-impacts-of-RE.pdf

	no harm" – table, or include mitigation measure used to neutralise a score of '–'	**Describe how your indicator is related to local MDG goals**		fully mitigated score 0 in case impact is planned to be fully mitigated No change in impact: score 0 Positive impact: score '+'
Air quality	Not Required	Goal 7 – Ensure Environmental sustainability; Target 7.A - Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	Operation Phase: Project activity leads to electricity production by Solar power, which improves the air quality as compared to those by the fossil fuel dominated grid mix. As compared with emission reduction by project activity, the air pollution (which may occur due to transformers, other electrical equipment's etc.) is less than 1% of overall emission reductions by the project activity and hence are negligible. Construction Phase: The impact during the construction phase was localized and temporary. Emissions were substantially greater than emissions from project operation activities, but still limited in volume. Site dispersion of emissions was good due to open areas allowing for early dispersions. Thus impact on local settlements was negligible owing to the considerable distance from the site.	+

			The minor dust emissions, if any, during construction phase were localized and controlled by spraying water in the area. As compared to baseline scenario, which is fossil fuel dominated grid connected electricity, the project activity reduces air pollution of baseline fossil fuel power plants equivalent of electricity generated by project activity. Please refer page 28, table 3.4.3 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. Thus the Overall impact due to the project shall be positive.	
Water quality and quantity	Not Required	MDG 7: Ensure Environmental Sustainability, target C "Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.	Explanation: Thermal power plants produce considerable amount wastewater especially due to cooling. By the project activity, significant amount of wastewater discharge will be avoided. During normal construction period, water usage is negligible and mainly for domestic use by workers. Once the solar power project/ unit is operational, water is only required for the domestic use for the project staff and they use	0

			approximately 0.5 KLD. Minor volumes of sewage will be generated from toilet facilities at the site office. This will be disposed to septic tank, thus no significant impact is anticipated to surface or groundwater. Apart from this water would be used for cleaning the panels, however the same would depend on the period of cleaning. Please refer page 28, table 3.4.3 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. Thus the Overall impact due to the project shall be neutral.	
Soil condition	Not Required	MDG- 7: Ensure Environment Sustainability 7.A Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources 7. B Reduce biodiversity loss, achieving, by 2010, a significant reduction in the	The project would not emit any pollutants to the soil during the construction and operation period, with no negative impact on the soil quality. The top soil excavated during construction, was stock pilled and used for plantation, levelling and road construction. During operation of a project, no appreciable adverse changes in the soils are anticipated. There are no excavated wastes. All	0

		rate of loss	excavated soils from foundation pits were spread in the plant area itself to provide required gradient in alignment with maximum solar radiation. The plant land is plain thus there was no any top soil stripping required. Also vegetation at site maintains the soil condition and there is no adverse impact. Please refer page 25, table 11, of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. Thus the Overall impact due to the project shall be neutral.	
Other pollutants	Not Required	MDG- 7: Ensure Environment Sustainability 7. B Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	Explanation: During the operation of the solar power project there will be no/ neglible noise due to solar panels. Therefore, there will be no negative impact on the settlement areas in this project due to the distance. Please refer page 28, table 3.4.3 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. This report does not mention any noise pollution from solar power plants,	0

			thus there is no any impact of noise pollution due to Project activity. This report clearly mentioned that solar farms operations do not result in any noise pollution. There are no other pollutants generated from the solar power project (renewable energy project). Access Road was available for transportation of equipment during construction. Vegetation and landscaping was done at site to give pleasant outlook at site. Since project site was barren land prior to implementation of project activity, there is no any impact of project activity on vegetation. In fact Vegetation has positive impact. Thus the Overall impact due to the project shall be neutral.	
Biodiversity	Not Required	MDG- 7: Ensure Environment Sustainability 7. B Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	Through engineering measures and greening measures, the condition of ground vegetation will be gradually improved; No rare species has been found in the around area. The project will not affect genetic diversity, alter or destruct natural habitat or deplete stocks of renewable resources. The proposed	0

			project does not involve forest land. With the implementation of Project, the greening water will be increased significantly; the biodiversity in the vicinity will be improved with the vegetation improvement. There is no any adverse impact on Bio adversity due to project implementation. Please refer page 29, table 3.4.3 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. Thus Overall impact due to the project shall be neutral.	
Quality of employment	Necessary health and safety measures will be taken during constructio n and operation phase, relevant staff will be trained to be able to work with high voltages.	MDG-1: Eradicate extreme poverty & hunger 1.B. Achieve full and productive employment and decent work for all, including women and young people	Parameter: Health and Safety and other trainings Explanation: Project developer ensures high standard health and safety conditions for the employees and provides Health & Safety Trainings to employees as per the HSE Policy of the company. Some of the staff may get training on different kind of issues like operation and maintenance of power plant. All employees will be trained on Occupational Health and Safety issue. Please refer page 29, table 3.4.4 of report on	+

			"Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013, the report described positive impacts due to employment and working condition. Thus the Overall impact due to the project shall be positive.	
Livelihood of the poor	Not Required	MDG-1: Eradication extreme poverty and hunger 1.A.Halve, between 1990 and 2015, the proportion of people whose income is less than $1 a day	Income generation by local orders with project activity will have indirect impacts to changing living standards of the local people. Please refer page 29, table 3.4.3 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. However, the impact is not significant and direct thus is considered as neutral.	0
Access to affordable and clean energy services	Not Required	Goal 7 – Ensure Environmental Sustainability; Target 7.A - Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	Parameter: Change in energy use Explanation: The project will help to reduce high share of imported fossil fuel dependency of India. In baseline, equivalent quantity of electricity would have been generated from fossil fuel dominated grid connected power plants. Thus project activity helps to increase renewable energy contribution for grid connected power plants.	+

			Hence score of indicator is considered as positive.	
Human and institutional capacity	Not Required	MDG-1: Eradicate extreme poverty & hunger	Parameter: Total number of beneficiaries of the initiatives undertaken by the project developer to enhance the human and institutional capacity of the local stakeholders. Explanations: Access to basic primary education and health are two basic factors parts to facilitate human and institutional capacity development. Various initiatives are undertaken on continuous basis by the Project Developer to contribute to these thematic areas. In order to improve accessibility to basic education, donation has been done to union primary school to provide basic infrastructure (e.g. school bags, tables etc.) located in the vicinity of the project activity. In order to improve quality of life of local people, initiatives were undertaken to provide clean drinking water at different places which are conveniently accessible from their homes. The above mentioned initiatives lead to several tangible as well as intangible benefits for the local	+

			community. Accordingly, the impact of the parameter to this indicator has been scored positive.	
Quantitative employment and income generation	Not Required	Goal 1 – Eradicate extreme hunger and poverty; Target 1.B – Achieve full and productive employment and decent work for all, including women and young people	Project activity will lead to generate employment opportunities for both skilled and unskilled labor. Hence the parameter to be monitored for this indicator is the number of staff employed for the project activity. The project activity generates employment both directly and indirectly for skilled as well as local unskilled workers on contract basis. The total number of local unskilled workers ranges from 10-30 depending on the labour requirement on any given day.	+
Access to investment	Not Required	MDG-8.D Develop a global partnership for development 8.D. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term.	There is no foreign investment envisaged for implementation or operation of the project activity at this stage. However, the project being a renewable power project leads to reduction in dependency on fossil fuels, there by leading to a reduction in purchase of fossil fuel in the country. As the impact is not quantifiable thus, it is considered that the project activity does not have a significant impact on balance of payments and investment and is considered as neutral.	0

Technology transfer and technological self-reliance		MDG 8 target F: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	In the project activity, technology shall be sourced primarily from inside the country and introduced into the region. At the same time, the project activity shall build usable and sustainable know-how in the region for the technology, where know-how was previously lacking. Hence the project presents ample opportunities of replication in other areas. However, constant monitoring of this parameter involves complexities and hence this parameter is scored neutral as a conservative approach.	0

Justification choices, data source and provision of references

Air quality	According to the projections given in B.4 part of the PDD, in the baseline situation new capacity additions will most probably be fossil fuel fired power plants. Electricity generated from the solar power plants partially substitute electricity generation from fossil fuel fired power plants that represent a large share of the Indian Power grid generation mix. Thus, besides greenhouse gases, all other air pollutants (e.g. SOx, NOx), particle and VOC emissions are avoided by the project activity. Dust emergence connected to the project activity appears only for a short time during the construction phase and will be caused by digging foundations, land arrangement works and construction. Project developer has taken all precautionary actions to prevent dust emissions. Emissions during this phase will be localized and temporary. Thus impact on local settlements will be negligible owing to the considerable distance from the solar power project activity. Therefore, in the SDM the positive effect of the project on the air quality is scored with (+). The positive impact of solar power on air quality is described in Sustainability Monitoring Plan. Net electricity generation shall serve as evidence of positive impact of the project activity on this indicator and will be monitored annually. **Source**: report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. This report clearly mentioned that solar farms operations do not result

	in direct air pollution. Please refer page 28, table 3.4.3 of report.
Water quality and quantity	In the baseline, thermal power plants discharges significant amount of waste water to the environment after usage for operational purposes like cooling. Having water treatment system in these power plants does not neutralize negative impact of waste water on environment as chemicals used for waste water treatment becomes problematic afterwards. With proposed project activity, usage and discharge of considerable amount of water will be avoided with partially substituting electricity generation from thermal power plants. Therefore, the impact of the project on this indicator is deemed to be positive. However, as a conservative approach the impacts on water quality and quantity has been considered as neutral. **Source**: Please refer page 28, table 3.4.3 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 which mentioned that solar plant operations do not result in water pollution.
Soil condition	In the baseline, thermal power plants emits significant amount of NOx which have negative impact to the quality of soil. The adverse effect of emissions of NOx on soil conditions is acid rains. Acid rains can damage soil conditions badly. With proposed project activity significant amount of NOx emission will be avoided due to substituting partially thermal power plant electricity generation. The project would not emit any pollutants to the soil during the construction and operation period, with no negative impact on the soil quality. The top soil excavated during construction, will be stock pilled and will be used for plantation. The roads will not be paved and will be only soling will be done with excavated earth & rock material, so land disturbance will be minimized. All the drainage patterns will be maintained as it is and wherever required road culverts will be provided. The cranes used for construction activities will be placed on hard, flat surface area and if required, ground levelling will be done. However, to be conservative impact of the project on this indicator is scored to be neutral and will not be monitored. **Source**: Please refer page 25, table 11 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013.
Other pollutants	The project activity comprises of installation of Solar PV modules, Solar PV modules are free from any noise pollution. Also, power plant control room is a well isolated area, therefore impact of noise from power plant on both employees and local residents is deemed to be negligible. There is no/ negligible noise pollutions occurring from the proposed project activity i.e Solar Power Project/ unit.

	Therefore, in the SDM the negligible effect of the project on the other pollutants is scored with (0) and will not be monitored. **Source**: Also report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. This report does not mention any noise pollution from solar power plants, thus there is no any impact of noise pollution due to project activity. This report clearly mentioned that solar farms operations do not result in any noise pollution.
Biodiversity	Through engineering measures and greening measures, the condition of ground vegetation will be gradually improved; No rare species has been found in the around area. With the implementation of Project, the greening water will be increased significant, the biodiversity will be improved with the vegetation improvement. Therefore, in the SDM the negligible effect of the project on biodiversity is scored with (0) and not monitored. **Source**: Please refer page 29 and 30, table 3.4.1 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013. Page 29 and 30 of this report mentioned that "As described, air, noise, water and biodiversity impacts of both wind and solar projects are either very low or negligible".
Quality of employment	Besides providing training to the employees, the Project will create permanent jobs for various technical services required to operate the Solar power plant. These jobs were created require qualified and skilled staff. So staff will be trained to have higher skills and certification to perform such power generation projects, the employment and training of skilled staff has an impact on job quality. With regard to the health and safety of the staff, facilities will be provided following requirements of company EHSS guideline, example, a first aid kit shall be provided at the working area; regular technical and safety trainings will be organized by the project owner periodically, emergency and safety procedures will be included in the operation manual in ensure safe working condition for the staff; As the project will provide employment so that the living standard of the employees can be improved, the indicator scores positive, since it is difficult to quantify and monitor the quality of employment except for training of staff, therefore training of staff was the chosen parameter for this indicator. **Source**: Please refer page 29, table 3.4.4 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 which mentioned that solar forms

	create local employment.
Livelihood of the poor	During the construction period, the project will provide some work opportunities to local unskilled laborers. However, the number of positions will be limited and the jobs will be short term. The Project will improve the livelihood of those hired through income. In addition, the tax paid by the Project will be used for local infrastructure construction. However, the impact is not significant and direct. **Source**: Please refer page 29, table 3.4.4 of report on "Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects" prepared by MNRE dated September 2013 which mentioned that solar forms create local employment.
Access to affordable and clean energy services	The Project utilises clean energy to displace fossil fuel. The Project exports electricity to the regional grid, thus results in a small and positive contribution in meeting national power demand. The Project adds renewable energy based capacity in the country. In baseline, equivalent quantity of electricity would have been generated from fossil fuel dominated grid connected power plants. Thus project activity helps to increase renewable energy contribution for grid connected power plants. Thus the monitoring parameter is the amount of electricity supplied to the grid. **Source**: Monthly Generation Records
Human and institutional capacity	The project activity will have an overall positive contribution to the sustainable development of the region. The Project Developer has focused on projects leading to improvement of basic education, improve quality of life and basic infrastructural improvement projects to facilitate human and institutional capacity development. The above mentioned initiatives lead to several tangible as well as intangible benefits for the local community. Accordingly, the impact of the parameter to this indicator has been scored positive.
Quantitative employment and income generation	Within the construction of the project, there will be created employment opportunities for workers. The project activity generates employment both directly and indirectly for skilled as well as local unskilled workers on contract basis. The total number of local unskilled workers ranges from 30 to 40 depending on the labour requirement on any given day. The Project will recruit operation and management personnel responsible for

	operation and maintenance of the Project during project operation period, and pay salaries and welfares and also helps to increase their income. The proposed project will create new employments. Therefore, this indicator is scored with (+) and will be monitored. **Source**: Employment Records
Access to Investment	There is no foreign investment envisaged for implementation or operation of the project activity at this stage. Thus, it is considered that the project activity does not have a significant impact on balance of payments and investment.
Technology transfer and technological self-reliance	The project developer considers the investment into and the operation of a well-known technology in the country. Further, some of the employees will be trained for solar power plant related issues. However, since these trainings are rather operation related trainings and will not lead an important know-how and technology transfer, this indicator is scored with (0) in the SDM

SECTION G. Sustainability Monitoring Plan

[See Toolkit 2.4.3 and Annex I]

Copy Table for each indicator

No	1
Indicator	Air quality
Mitigation measure	In order to reduce dust emissions during the construction phase, the following dust suppression measures were stipulated and implemented: • Spraying water and covering material trucks' body to minimize dust; • Reuse of water for sprinkling of unpaved roads. • Imposition of speed controls for vehicles and unpaved site roads;
Repeat for each parameter	
Chosen parameter	Indirect parameter of "Net clean and renewable electricity supplied by the Project" is measured in order to calculate the concentrations of CO2, as multiplied by default national emission factor from the Indian grid.
Current situation of parameter	Equivalent electricity supplied by Indian grid which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.

Estimation of baseline situation of parameter		In the baseline, equivalent electricity supplied by Indian grid which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.
Future target for parameter		35,678 MWh/yr of clean electricity produced by the Project, which replaces of fossil fuel consumption for the equivalent electricity generation and thus reduce air pollutants emissions and improve the air quality.
Way of monitoring	How	The net electricity supplied by the Project will be continuously measured by electricity meters.
	When	Continuously measured and monthly recorded
	By who	Monitored by the Project owner and cross checked measurement results with records for sold electricity.

No		2
Indicator		Quality of employment
Mitigation measure		N/A as indicator scored positive.
Repeat for each parameter		
Chosen parameter		No. of staff trained
Current situation of parameter		Without the Project, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Estimation of baseline situation of parameter		Without the Project, local people have no such opportunities to be trained on the technology and the monitoring of the plant operation, and the emergency and safety procedures.
Future target for parameter		Together with the technology supplier, the Project organize training for the staff on the technology and the monitoring of the plant operation, and the emergency and safety procedures. The major thrust of trainings would be on the below core areas: • Effective verbal & written communication • HSE training to all employees who are deployed at site However, other trainings may be provided as well depending on the need of the project developer as well as that of the employees.
Way of monitoring	How	The training records for all the employees
	When	Annually
	By who	Monitored by the project owner

No		3
Indicator		Access to affordable and clean energy services
Mitigation measure		N/A as indicator scored positive.
Repeat for each parameter		
Chosen parameter		Net clean and renewable electricity supplied by the Project
Current situation of parameter		Equivalent electricity supplied by Indian grid which is generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid.
Estimation of baseline situation of parameter		Continuation of baseline situation
Future target for parameter		35,678 MWh/yr of clean electricity produced by the Project
Way of monitoring	How	The net electricity supplied by the Project will be continuously measured by electricity meters.
	When	Continuously measured and monthly recorded
	By who	Monitored by the Project owner and cross checked measurement results with records for sold electricity.

No	4
Indicator	Quantitative employment and income generation
Mitigation measure	Not Required
Repeat for each parameter	
Chosen parameter	No. of staff employed in the project activity and cumulative income provided to them on annual basis.
Current situation of parameter	The total number of local unskilled workers ranges from 30 to 40 depending on the labour requirement on any given day. The income to all the unskilled workers are made on day to day basis with the minimum being Rs. 350 per day.
Estimation of baseline situation of parameter	0

Future target for parameter		As per the requirements for plant operations. The project activity generates employment both directly and indirectly for skilled as well as local unskilled workers on contract basis. The total number of local unskilled workers ranges from 10 to 30 depending on the labour requirement on any given day. The income to all the unskilled workers are made on day to day basis with the minimum being Rs. 350 per day. Annual records of income paid to all the employees would be available.
Way of monitoring	How	Employee rolls, pay-slips, attendance registers, vouchers, Gate entry records etc.
	When	Annually
	By who	Project proponent

No		5
Indicator		Human and institutional capacity
Mitigation measure		Not Applicable
Repeat for each parameter		
Chosen parameter		Total number of beneficiaries of the initiatives undertaken by the Project Developer to enhance the human and institutional capacity of the local stakeholders.
Current situation of parameter		The Project Developer has focused on projects leading to improvement of basic education, health, improve quality of life and basic infrastructural improvement projects to facilitate human and institutional capacity development.
Estimation of baseline situation of parameter		The project is a green field activity. Prior to the project there were no such CSR activities organized in the villages. Therefore, baseline situation of chosen parameter has made the current situation visible and hence the current situation is comparable to a prominent baseline situation.
Future target for parameter		Enhance the scale and reach of CSR activities so as the increase the number of direct as well as indirect beneficiaries by 50.
Way of monitoring	How	Photographs, cheques, donation receipts, CSR reports and

		other supportive documentation on reporting as provided.
	When	Annually
	By who	Project Developer in association with EPC contractor and local Entities.

Additional remarks monitoring

For details regarding the monitoring of the other parameters pertaining to the calculation of GHG emission reductions for the project activity under consideration, please refer to sections B.6.3. and B.7.3 of the CDM PDD.

SECTION H. Additionality and conservativeness

This section is only applicable if the section on additionality and/or your choice of baseline does not follow Gold Standard guidance

H.1. Additionality

[See Toolkit 2.3]

Please refer to section B.5. of the PDD, in line with the tool for "Demonstration and assessment of additionality", version 07.0.0.

H.2. Conservativeness

[See Toolkit 2.2]

The PP hereby wishes to clarify that the most conservative baseline scenario has been used for baseline establishment for the project, especially considering the relevant guidelines of the approved methodology ACM0002 version 17. The project is a Greenfield Solar power generation project.

Further, the PDD applies grid emission factor as per the available CEA database version 11 and the emission factor applied is 0.9777 tCO_2/MWh.

ANNEX 1 ODA declaration

[See Toolkit Annex D]

The PP hereby declares that no ODA was received for this project. Pls. refer section A.5 of the registered PDD. Further, a declaration for the same has been submitted to the DOE.