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# **CASE STUDY: Wind power project in Mongolia**

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# **CASE STUDY: WIND POWER PROJECT IN MONGOLIA**

# Our case study project

- Construction of a wind farm in “JCM Soum” in Tov Aimag.
- Project participants:
  - Mongolia: Chinggis Khan Energy Group
  - Japan: JCM Corporation



# Our case study project

- The project reduces GHG by transmitting power to Mongolia's **central electricity system**, thereby replacing fossil fuel by renewable energy.
- The construction has not started yet, but **technology supplier has been identified.**
- **EIA and local stakeholder consultation** have been conducted.

# Our case methodology

$$ER_y = RE_y - E_{GPJ,y} \times EF_{Grid,y}$$

Where :

- $ER_y$  = CO2 Emission Reductions in year  $y$  [tCO<sub>2</sub>/y]
- $RE_y$  = Reference Emissions in year  $y$  [tCO<sub>2</sub>/y]
- $E_{GPJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the wind power project activity in year  $y$  [MWh/y]
- $EF_{Grid,y}$  = CO2 emission factor for grid connected power generation in year  $y$  [tCO<sub>2</sub>/MWh]
- (GHG emission reduction = Wind power fed into the grid x Grid emission factor)

# Assessment sheet

- A convenient tool to clarify key points of assessment and its result.
- Please fill in this from electronically and submit it to orgnisors to receive your certificate.

**PLEASE READ THROUGH PDD,  
MONITORING SHEET,  
METHODOLOGY AND ASSESSMENT  
SHEET**

# **PART 1: GENERIC**



# 1. PDD Form

- The latest and appropriate version of the PDD forms has been used, and the PDD has been drafted in line with the guideline.

**Check the version of the submitted PDD, and make sure that submitted PDD does not have any missing components**

## 2. Project description

- Title of the project
  - Indicate technology and sector
- Technology applied
  - The purpose of the project;
  - Explanation of how to reduce emissions
    - what type of technology
    - what measures are conducted
- Location of project,
  - Country, Region/State/Province etc.
  - City/Town/Community etc
  - Latitude, longitude

## 2. Project description

- Project Participants
- Duration
  - Starting date of operation.
  - Expected operational lifetime.
- Contribution from developed countries
  - How developed countries contribute to implementation of project. (finance, technology, training, support for O&M, etc)

Check the project description, including the title

# 9. Modalities of communications

- Have to decide one focal point to communicate with Joint Committee, secretariat in line with and complete MoC to submit to the Joint Committee and the TPE with draft PDD.



Check all project participants, focal point in MoC, personal identities, specimen signatures, employment status, authorized signatories.

**Rather administrative – this training does not cover MoC**

JCM Modalities of Communication Statement Form

Section 1: Project description	
Title of the project	
Country	
Date of Submission	dd/mm/yyyy

  

Section 2: Nomination of focal point entity		
Name of entity:		
Address (incl. postcode):		
Telephone:	Fax:	
E-mail:	Website:	
Primary authorised signatory:	Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>	
Last name:	First name:	
Title:		
Specimen signature:	Date: dd/mm/yyyy	
Alternate authorised signatory:		
Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>		
Last name:	First name:	
Title:		
Specimen signature:	Date: dd/mm/yyyy	
Contact person:		
Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>		
Last name:	First name:	
Title:		
Department:		
Mobile:	Direct tel.:	
E-mail:	Direct fax:	
USE THIS SECTION FOR POST-REGISTRATION SUBMISSIONS ONLY	Is this entity changing its name?	Yes <input type="checkbox"/> (Former entity name: ) No <input type="checkbox"/>
	Is the entity also a project participant?	Yes <input type="checkbox"/> No <input type="checkbox"/>
	If the entity is also a project participant, do the same signatories represent it in its project participant role?	Yes <input type="checkbox"/> No <input type="checkbox"/>

# 10. Avoidance of double registration

- The proposed JCM project is not registered under other international climate mitigation mechanisms.

Check MoC – and also search the UNFCCC website for CDM project cycle.

# 11. Start of operation

- The start of operation of the proposed JCM project does not predate January 1, 2013.

**Check start operation date and ensure that it is after the date above.**

# **PART 1: SUGGESTED ASSESSMENT**

# 1. PDD Form

- Yes, version 1.0 has been used.
- PDD structure follows the guideline.

OK



## 2. Project description

- Difficulty in defining “complete and comprehensive”. Nevertheless, the project description includes key information including environmental and social benefits, boundaries and applied technologies of the project.
- Title is too generic – it should include more details so that the project title is unique.
- More detailed information should be checked at site visit.

2.1 CAR: Project title should be revised.  
Accuracy to be checked by site visit.

# 11. Start of operation

- The PDD states that the project starts in 2008.

11. CAR – Correct the start of operation date.

# **PART 2: METHODOLOGY-SPECIFIC**

# 3. Application of approved JCM methodology

- Based on comparison with the actual text of the applicable version of the methodology, is the methodology correctly quoted and applied?
- Project meets each eligibility criterion of the approved methodology or any other approved methodology component if referred to therein.
- The applied version of the methodology is valid at the time of submission for validation of the proposed JCM project.

**Check PDD against the methodology. Check consistency, eligibility criteria and version of methodology. Is there are a need for additional information?**

# 4. Emission sources and calculation of emission reductions

- All relevant GHG emission sources covered in the methodology are addressed for calculating project and reference emissions for the project.
- The values for project specific parameters to be fixed ex ante listed in the Monitoring Plan Sheet are appropriate
- The Monitoring Spreadsheet is not altered and required fields are filled in appropriately.

**Check PDD against the methodology. Ensure that description on emission sources and calculation of emission reductions are consistent with methodology.**

# 7. Monitoring

Two Excel sheet

- Monitoring Plan Sheet
- Monitoring Structure Sheet

## 1. Monitoring Plan Sheet

- Based on applied methodology?
- Parameters used
- Monitoring points
- Monitoring equipment

Monitoring Plan Sheet (input sheet) (Attachment to Project Design Document)

Table 1: Parameters to be monitored ex post

(1) Monitoring point No.	(2) Parameters	(3) Description of data	(4) Estimate of Values	(5) Units	(6) Monitoring option	(7) Source of data	(8) Measurement methods and procedures	(9) Monitoring frequency	(10) Other comments
(1)	FFC <sub>y</sub>	Project diesel fuel consumption during the period of year y	5,000	litry	Option B	portable meters	Collecting purchase amount from retailer invoices and reporting to a spreadsheet manually Project design managers should check the input data with monthly every 3 months	once a month	
(2)	PEC <sub>y</sub>	Project electricity consumption during the period of year y	10,000	MW/hy	Option C	monitored data	Collecting electricity consumption data with submetered electricity monitoring devices and reporting to a spreadsheet electronically Verified monitoring devices are installed and they are calibrated once a year Verification and calibration shall meet international standard on corresponding monitoring devices	continuous	
(3)	FFC <sub>y</sub>	Project LPG consumption during the period of year y	0	litry	N/A	N/A	N/A	N/A	N/A
(4)	FFC <sub>y</sub>	Project natural gas consumption during the period of year y	0	1000m <sup>3</sup> /y	N/A	N/A	N/A	N/A	N/A
(5)	FFC <sub>y</sub>	Project kerosene consumption during the period of year y	0	litry	N/A	N/A	N/A	N/A	N/A

Table 2: Project-specific parameters to be fixed ex ante

(1) Parameters	(2) Description of data	(3) Estimated Values	(4) Units	(5) Source of data	(6) Other comments
EEI <sub>2012</sub>	Percentage of improvement in energy consumption efficiency for (Office Building) using BEMS	22%		Field records of 10 similar size office buildings for the period of 2008-2012 measured by the project participant. BEMS provider	Data set of each building has the data of before and after BEMS implementation at least for one year respectively.

Table 3: Ex-ante estimation of CO<sub>2</sub> emission reductions

CO <sub>2</sub> emission reductions	Units
1.5M	tonCO <sub>2</sub>

Monitoring option

Option A: Based on public data which is measured by entities other than the project participants (like used publicly recognized data such as satellite data and certifications)

Option B: Based on the project participant which is measured directly using measuring equipment (like used commercial excellent such as meters)

Option C: Based on the public measurement using measuring equipment (like used measuring station)

T.C.

## 2. Monitoring Structure Sheet

Related to data management system

- Monitoring organization
- Procedure of QA/QC

Establish and apply quality management procedures to manage data and information.

Monitoring Spreadsheet: JCM-JP-MN-001 Ver.1.0

Monitoring Structure Sheet [Attachment to Project Design Document]	
Responsible personnel	Role
Project Manager	Responsible for project planning, implementation, monitoring results and reporting.
Project Deputy Managers	Appointed to be in charge of approving the archived data after being checked and corrected when necessary.
Facility Managers	Appointed to be in charge of monitoring procedure (data collection and storage), including monitoring equipments and calibrations, and training of monitoring personnel.
Operators	Appointed to be in charge of checking the archived data for irregularity and lack.
N/A	N/A
N/A	N/A
N/A	N/A

# **PART 2: SUGGESTED ASSESSMENT**



# 3. Application of approved JCM methodology

- PDD is quoting methodology correctly.
- As for eligibility criteria:
  - Criterion 1 - OK
  - Criterion 2 – OK
  - Criterion 3 - No description of “downwind”
  - Criterion 4. – No documentation.
- Version of methodology – wrong. Should use version

3.1.2 - CL: Need to check if Nacelle will be oriented downwind at the blackout by the storm.

CL: Request certification document for IEC 61400 series.

3.2 - CAR: Use methodology Version 1.

## 4. Emission sources and calculation of emission reductions

- Although all emission sources are covered, the Grid Emission Factor is not correct.
- Mongolia's grid emission factor is 1.1542 (Operating margin)

4.1 CAR: Revise the grid emission factor of central electricity system using Mongolia's official data.

# 7. Monitoring

- In general, the PDD complies to methodology.
- Difficult to assess the appropriateness of monitoring.
- Some information has to be checked at the site visit.

CAR 7.4.1 : Monitoring structure needs to be written in  
More needs to be checked by site visit.

# **PART 3: OUTREACH**

# 5. Environmental impact assessment

- The project participant has conducted an environmental impact assessment, if required by the host country and in line with the host country's procedures.

**Is this project required to conduct EIA? Is the description in the EIA section comprehensive?**

# 6. Local stakeholder consultation

- The project participants have completed a local stakeholder consultation process.
- Have comments been invited from relevant local stakeholders?
- Are the summary of comments provided in the PDD complete?
- Have the project participants taken due account of all comments received and have they described the process taken in the PDD?

**Does the “local stakeholder consultation section” provide sufficient information?**

## 8. Public inputs

- JCM secretariat makes PDD publicly available through the JCM website for 30 days.

- Check if all inputs on the PDD are reviewed.
- Check whether they have taken due account of the public inputs.

# **PART 3: SUGGESTED ASSESSMENT**



# 5. Environmental impact assessment

- Mongolia require any power plants above 10 MW to conduct EIA (not 500kW)
- More information should be provided as to whether the EIA has been conducted in line with the host country's procedures.
- More detail information will be checked at site visit.

5.1 CAR : Need to correct the threshold capacity of power generation that requires EIA.

More information needed at the site visit.

## 6. Local stakeholder consultation

- Local stakeholder consultation has been conducted
- But it is not clear how the consultation was conducted (e.g .date, means, frequency)
- Most of contents require site visits

6.2.2 CL: PDD should describe how the comments were collected more in detail.

# Before you break...

- Please fill in this form electronically and submit it to organisers to receive your certificate.
- File name: Assessment Table (YOU NAME)

