CASE STUDY: Wind power project in Mongolia

22 January 2014
Kenta Usui
Climate and Energy Area, IGES
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

\[ ER_y = RE_y = EGPJ, y \times EF_{Grid}, y \]

Where:

• \( ER_y \) = CO2 Emission Reductions in year \( y \) [tCO2/y]
• \( RE_y \) = Reference Emissions in year \( y \) [tCO2/y]
• \( EGPJ, y \) = 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 \( y \) [tCO2/MWh]

• \((GHG\text{ emission reduction} = Wind\text{ power fed into the grid} \times Grid\text{ emission factor})\)
Assessment sheet

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

• File name: Assessment Table (YOU NAME)