

CGN HAMI PHASE I 20MWP GRID-CONNECTED PV POWER PLANT PROJECT

Document Prepared By CGN Carbon Asset Management (Beijing) Co., Ltd.

Project Title	CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project
Version	Version 02
Date of Issue	22/02/2014
Prepared By	CGN Carbon Asset Management (Beijing) Co., Ltd.
Contact	Area 12 of Advanced Business Park, No. 188 west of South 4th Ring Road, No.2 Building, Beijing, The People's Republic of China Telephone: +86 10 63705765 Email: cgnwind@163.com

Table of Contents

1	Project Details	3
1.1	Summary Description of the Project	3
1.2	Sectoral Scope and Project Type	3
1.3	Project Proponent	3
1.4	Other Entities Involved in the Project.....	3
1.5	Project Start Date.....	3
1.6	Project Crediting Period	4
1.7	Project Scale and Estimated GHG Emission Reductions or Removals	4
1.8	Description of the Project Activity	4
1.9	Project Location	4
1.10	Conditions Prior to Project Initiation	6
1.11	Compliance with Laws, Statutes and Other Regulatory Frameworks	6
1.12	Ownership and Other Programs	6
1.12.1	Right of Use.....	6
1.12.2	Emissions Trading Programs and Other Binding Limits.....	6
1.12.3	Other Forms of Environmental Credit.....	6
1.12.4	Participation under Other GHG Programs.....	6
1.12.5	Projects Rejected by Other GHG Programs.....	7
1.13	Additional Information Relevant to the Project.....	7
2	Application of Methodology	7
2.1	Title and Reference of Methodology.....	7
2.2	Applicability of Methodology	8
2.3	Project Boundary	8
2.4	Baseline Scenario	8
2.5	Additionality.....	8
2.6	Methodology Deviations.....	8
3	Quantification of GHG Emission Reductions and Removals	8
3.1	Baseline Emissions.....	8
3.2	Project Emissions	8
3.3	Leakage	8
3.4	Net GHG Emission Reductions and Removals	9
4	Monitoring	9
4.1	Data and Parameters Available at Validation	9
4.2	Data and Parameters Monitored.....	9
4.3	Monitoring Plan	9
5	Environmental Impact.....	9
6	Stakeholder Comments.....	9

1 PROJECT DETAILS

1.1 Summary Description of the Project

CGN Hami Phase I 20MWp Grid-connected PV Power Plant Project (hereafter referred to as “the project”) is a newly built photovoltaic power plant located in Hami City, Xinjiang Uygur Autonomous Region, P.R.China. The project is to utilize solar energy for electricity generation. The project is constructed and operated by CGN Solar Power Development Co., LTD (hereafter referred to as “the project owner”). The project has a total installed capacity of 20.31MWp, the expected average annual net electricity generation during the whole operation lifetime is 29,846MWh with the plant load factor (PLF) of 16.8%. The electricity generated by the project will be supplied to Northwest China Power Grid (NWCPG). Prior to the implementation of the project, the equivalent electricity supplied by the project was sourced from the NWCPG. The project will substitute part of the fossil fuel-fired power plants connected to NWCPG so as to reduce the CO₂ emission of those plants. The expected electricity generation of the project in first year is 33,294MWh. The attenuation factor of the electricity generation is about 0.99 every year. The expected annual average net electricity generation during the first crediting period is 32,384MWh. The annual average emission reductions of the project during the first crediting period are estimated to be 29,029 tCO₂e.

1.2 Sectoral Scope and Project Type

Category: Renewable electricity in grid connected application

Sectroal Scope 1: Energy Industry

The project is not a grouped project.

1.3 Project Proponent

Organization name	CGN Solar Power Development Co., LTD
Contact person	Shi Lei
Title	CDM office director
Address	Area 12 of Advanced Business Park, No. 188 west of South 4th Ring Road, No.2 Building, Beijing, The People's Republic of China
Telephone	+86 10 63705765
Email	cgnwind@163.com

1.4 Other Entities Involved in the Project

There are no other entities involved.

1.5 Project Start Date

28/12/2011(commissioning start date)

1.6 Project Crediting Period

The project crediting period is from 28/12/2011 to 26/12/2012 and the total crediting period is 365 days.

1.7 Project Scale and Estimated GHG Emission Reductions or Removals

Project Scale	
Project	✓
Large project	

Year	Estimated reductions (tCO ₂ e)	GHG or emission removals
Year 1 (28/12/2011-26/12/2012)	29,029	
Total estimated ERs	29,029	
Total number of crediting years	1 year	
Average annual ERs	29,029	

1.8 Description of the Project Activity

The project is to utilize solar energy for electricity generation. The solar optical energy is directly converted to the electricity energy by using photovoltaic effect that can take place at the interface of the specific semiconductor materials. Prior to the implementation of the project, the equivalent electricity supplied by the project was sourced from NWCPG. By replacing the electricity generated from fossil fuel-fired power plants dominated NWCPG, the project will achieve greenhouse gas (GHG) emission reductions by avoiding CO₂ emissions.

The project scenario is the implementation of the proposed project, the installed capacity of the project is 20.31MWp with PLF of 16.8%, and polycrystalline silicon solar cells are chosen and utilized for the project. Each of solar cell array is composed of solar cell module, junction box, inverter and booster. The DC electric power generated by the photo voltaic modules will be converted into AC power by the inverters, stepped up to 35kV through a set of transformers located in a distributed manner all over the plant. Then the electricity generated by the project will be connected to NWCPG.

The lifetime of the project is 25 years.

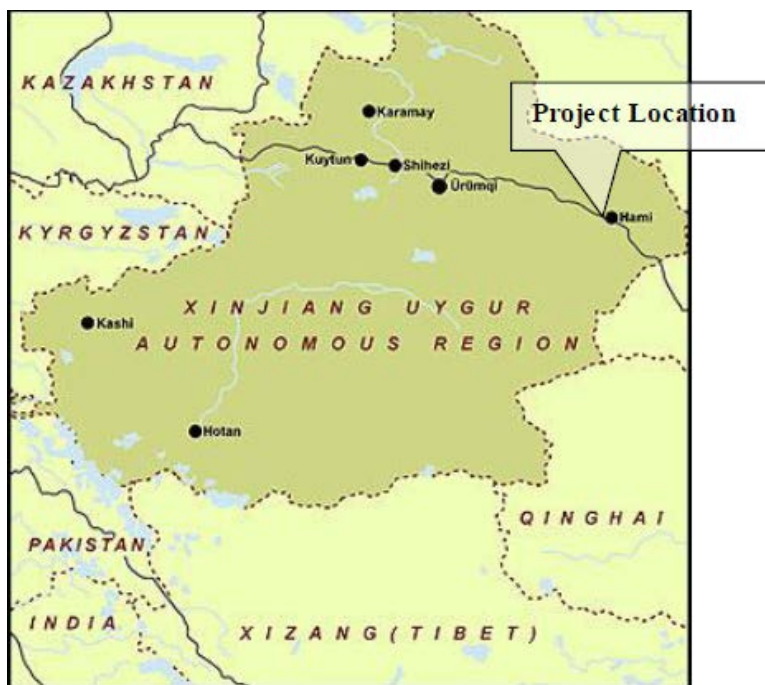
1.9 Project Location

The project is located in Hami City, Xinjiang Uygur Autonomous Region, P. R. China. The central geographical coordinates of the project is E119.1102° and N48.9538° . Figure A1 and A2 shows the geographical location of the project.

Figure A1. The location of the proposed project in the map of P. R. China



Figure A2. The location of the proposed project in the map of Xinjiang Uygur Autonomous Region, P. R. China



1.10 Conditions Prior to Project Initiation

The project activity is the installation of a new grid-connected photovoltaic power project and the generated power shall be exported to the NWCPG. Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources within NWCPG.

The project is a renewable resource based on photovoltaic power project without GHG emissions during operation period. Therefore, it was confirmed that the project has not been implemented to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction.

1.11 Compliance with Laws, Statutes and Other Regulatory Frameworks

The project complies with all Chinese relevant laws and regulations. It also obtained the approval letters from governmental authorities: Development and Reform Commission (DRC), as well as Environment Protection Bureau (EPB) of Xinjiang Uygur Autonomous Region. The two approvals well demonstrate that local government permits the construction of the project. Consequently, the project is compliance with laws, status and other regulatory frameworks.

1.12 Ownership and Other Programs

1.12.1 Right of Use

The business license is the evidence for right of use. The approval of FSR and EIA are evidences for legislative right. Besides, the purchasing contract of photovoltaic and the power purchase agreement are the evidences for the ownership of the plant, equipment and process generating.

1.12.2 Emissions Trading Programs and Other Binding Limits

The project has been registered as a CDM project on 27/12/2012, for which a renewable crediting period of 3*7 years will be used under the CDM GHG Program. Therefore, CO₂ emission reductions generated by the project during the CDM crediting period will be verified as unique CERs, but not VCUs to avoid double counting. As to the project under VCS Standard (Version. 3.4), only emission reduction achieved from 28/12/2011 to 26/12/2012 will be considered as VCUs.

1.12.3 Other Forms of Environmental Credit

The project neither has nor intends to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program for the period from 28/12/2011 to 26/12/2012.

1.12.4 Participation under Other GHG Programs

The project has been registered as CDM project and the registration number is 8194, the CDM crediting period is form 27/12/2012 to 26/12/2019.

1.12.5 Projects Rejected by Other GHG Programs

NA

1.13 Additional Information Relevant to the Project

Eligibility Criteria

NA

Leakage Management

According to the consolidated methodology ACM0002 (Version 13.0.0), the leakage of the project is not considered.

Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description.

Further Information

No further information is required.

2 APPLICATION OF METHODOLOGY

2.1 Title and Reference of Methodology

The approved methodology applied in the proposed project activity is ACM0002 (version 13.0.0) – “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”.

Reference:

<http://cdm.unfccc.int/methodologies/DB/MPY3HVJIMTKE5P0UNTYE827D6Q7EHB>

“Tool for the demonstration and assessment of additionality (version 06.1.0)” and

Reference:

<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v6.1.0.pdf>

“Tool to calculate the emission factor for an electricity system (version 02.2.1)” is also applied in the proposed project.

Reference:

<http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v2.2.1.pdf>

2.2 Applicability of Methodology

The approved methodology ACM0002 is applicable to the project activity, because:

a. The Project is a newly-built 20.31MWp grid-connected renewable energy (i.e. solar power) power plant at a site where no renewable power plant was operated prior to the implementation of the project activity.

b. The Project does not involve an on-site switch from fossil fuels to a renewable source.

Therefore, the baseline methodology ACM0002 (version 13.0.0) is applicable to the project activity.

2.3 Project Boundary

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.3 of the PDD.

2.4 Baseline Scenario

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.4 of the PDD.

2.5 Additionality

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.5 of the PDD.

2.6 Methodology Deviations

There is no deviation of the adopted methodology..

3 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

3.1 Baseline Emissions

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.6 of the PDD.

3.2 Project Emissions

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.6 of the PDD.

3.3 Leakage

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.6 of the PDD.

3.4 Net GHG Emission Reductions and Removals

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.6.4 of the PDD.

4 MONITORING

4.1 Data and Parameters Available at Validation

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.6.2 of the PDD.

4.2 Data and Parameters Monitored

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.7 of the PDD.

4.3 Monitoring Plan

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section B.7.2 of the PDD.

5 ENVIRONMENTAL IMPACT

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section D of the PDD.

6 STAKEHOLDER COMMENTS

The project had been registered as a UNFCCC CDM project with Ref No.8194, Please refer to the Section E of the PDD.