



# SHANDAN DONGLE BEITAN 50MW SOLAR POWER GENERATION PROJECT



|                                  |                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project title</b>             | Shandan Dongle Beitán 50MW Solar Power Generation Project                                                                                                                                                                                                                                                                                                            |
| <b>Project ID</b>                | VCS 1362                                                                                                                                                                                                                                                                                                                                                             |
| <b>Monitoring period</b>         | 01-Nov-2020 to 27-Dec-2023                                                                                                                                                                                                                                                                                                                                           |
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| <b>VCS Standard Version</b>      | 4.7                                                                                                                                                                                                                                                                                                                                                                  |
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# 1 PROJECT DETAILS

## 1.1 Summary Description of the Implementation Status of the Project

Shandan Dongle Beitan 50MW Solar Power Generation Project (hereafter simplified as “the project”) is a newly built grid-connected photovoltaic power plant with installed capacity of 50MWp, which is located in Dongle Beitan, Shandan County, Zhangye City, Gansu Province of China. The project is developed and operated by Shandan Xiehe Solar Power Generation Co., Ltd. (hereafter simplified as “the project proponent”).

Purpose of the project is to generate electricity by using the renewable solar energy, and the electricity generated by the project will be delivered into Northwest Power Grid (NWPG )to replace the equivalent electricity generated by fossil-fuel dominated NWPG, therefore the GHG emission reductions will be achieved.

The start date of commercial operation of the project is dated on 28-Dec-2013. This project adopts renewable crediting periods of 25 years as per the registered VCS PD, and the first crediting period is from 28-Dec-2013 to 27-Dec-2023 (both days included). All project equipment and facilities as described in the registered VCS PD have been correctly installed. Please refer to section 3.1 for details;

The total expected electricity generation of project in the first crediting period is 755,643.25 MWh and a total emission reduction of 647,430 tCO<sub>2e</sub> during the first 10-year crediting period. The annual grid-in electricity in the first crediting period years is 75,564.33 MWh, and the annual average GHG emission reductions are estimated to bet 64,743 tCO<sub>2e</sub>.

This monitoring period covers the period from 01-Nov-2020 to 27-Dec-2023. The project operated in accordance with the registered VCS PD. The net electricity delivered to the grid by this project is 249,149.213 MWh and total GHG emission reduction is 213,469 tCO<sub>2e</sub> with annual GHG emission reduction of 67,639 tCO<sub>2e</sub> during this monitoring period.

The timeline of the project is shown below:

| Milestone(s) in the project's development | Date                       |
|-------------------------------------------|----------------------------|
| Start date of construction                | 01-Oct-2013                |
| Start date of operation                   | 28-Dec-2013                |
| Start date of the crediting period        |                            |
| The first monitoring period               | 28-Dec-2013 to 27-Oct-2019 |
| The second monitoring period              | 28-Oct-2019 to 31-Oct-2020 |
| The third monitoring period               | 01-Nov-2020 to 27-Dec-2023 |

## 1.2 Audit History

| Audit type   | Period                     | Program | Validation/verification body name                       | Number of years |
|--------------|----------------------------|---------|---------------------------------------------------------|-----------------|
| Validation   | 28-Dec-2013 - 27-Dec-2023  | VCS     | TÜV NORD CERT GmbH                                      | Ten years       |
| Verification | 28-Dec-2013 - 27-Oct-2019  | VCS     | LGAI Technological Center, S.A. (Applus+ Certification) | Six years       |
| Verification | 28-Oct-2019 - 31-Oct-2020  | VCS     | CTI Certification Co., Ltd                              | One year        |
| Verification | 01-Nov-2020 to 27-Dec-2023 | VCS     | CTI Certification Co., Ltd                              | Three years     |

## 1.3 Sectoral Scope and Project Type

|                             |                                                              |
|-----------------------------|--------------------------------------------------------------|
| Sectoral scope <sup>1</sup> | 1.Energy (renewable/non-renewable)                           |
| Project activity type       | Renewable energy Project. Grid connected solar power project |

## 1.4 Project Proponent

|                   |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
| Organization name | Shandan Xiehe Solar Power Generation Co., Ltd.                                    |
| Contact person    | Zhan Bin                                                                          |
| Title             | Director                                                                          |
| Address           | The crossing of East Youth Street, Ganzhou District, Zhangye City, Gansu Province |
| Telephone         | +86 936 8226684                                                                   |
| Email             | 3542346576@qq.com, hhsdyinlongxing@vip.163.com                                    |

## 1.5 Other Entities Involved in the Project

|                   |                                |
|-------------------|--------------------------------|
| Organization name | Climate Bridge (Shanghai) Ltd. |
|-------------------|--------------------------------|

<sup>1</sup> Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

|                     |                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------|
| Role in the project | Consultancy                                                                                  |
| Contact person      | Zhiwen Gao                                                                                   |
| Title               | General Manager                                                                              |
| Address             | Block B, Level 24, Jiangong Mansion, 33 Fushan Road, Pudong New Area, Shanghai, China 200120 |
| Telephone           | +86-2162462036                                                                               |
| Email               | gao.zhiwen@climatebridge.com; projects@climatebridge.com                                     |

## 1.6 Project Start Date

|                    |                                                                                                                                                                                                                                                                                                                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Project start date | 28-Dec-2013                                                                                                                                                                                                                                                                                                    |
| Justification      | The project start date of a non-AFOLU project is the date on which the project began generating GHG emission reductions or carbon dioxide removals. The project start date is 28-Dec-2013 on which the project began generating electricity and the project activity began generating GHG emission reductions. |

## 1.7 Project Crediting Period

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Crediting period                               | <input type="checkbox"/> Seven years, twice renewable<br><input type="checkbox"/> Ten years, fixed<br><input checked="" type="checkbox"/> Other (state the selected crediting period and justify how it conforms with the VCS Program requirements)<br><p>There is a deviation for the crediting period. The project is registered on 28-Oct-2014 under VCS standard Version 3.4 and completed validation before 19-Mar-2020. Thus, it remains eligible to apply the crediting period requirements under VCS standard Version 3.4 which shall be a maximum of ten years and may be renewed at most twice. As per the registered PD, the whole crediting period is 25 years from 28-Dec-2013 to 27-Dec-2038 due to the project lifetime is 25 years. The first 10-year crediting period the project is from 28-Dec-2013 to 27-Dec-2023 and has been issued twice.</p> |
| Start and end date of first or fixed crediting | 28-Dec-2013 to 27-Dec-2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

period

## 1.8 Project Location

The Project is located in Dongle Beitan, Shandan County, Zhangye City, Gansu Province of China. The coordinates of the four site inflection points of the project are as below:

| Site      | Longitude    | Latitude    |
|-----------|--------------|-------------|
| A (North) | 100°56'05" E | 38°49'59" N |
| B (East)  | 100°57'25" E | 38°49'52" N |
| C (South) | 100°57'21" E | 38°49'16" N |
| D (West)  | 100°56'01" E | 38°49'21" N |

The location of the Project is shown in the map of Figure 1-1.



Figure 1-1: The location of the project.

## 1.9 Title and Reference of Methodology

| Type<br>(methodology,<br>tool or module). | Reference ID, if<br>applicable | Title                                                                        | Version |
|-------------------------------------------|--------------------------------|------------------------------------------------------------------------------|---------|
| Methodology                               | ACM0002                        | Grid-connected electricity generation from<br>renewable sources <sup>2</sup> | 15.0    |

<sup>2</sup> <https://cdm.unfccc.int/methodologies/DB/XB1TX7TAZ6SLWM9B7BC67THHVD16JV>

|      |            |                                                                              |        |
|------|------------|------------------------------------------------------------------------------|--------|
| Tool | AM-tool-07 | Tool to calculate the emission factor for an electricity system <sup>3</sup> | 04.0   |
| Tool | AM-tool-01 | Tool for the demonstration and assessment of additionality <sup>4</sup>      | 07.0.0 |

## 1.10 Double Counting and Participation under Other GHG Programs

### 1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

### 1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

## 1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

### 1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

In China, there is no binding limit on GHG emissions for a site, company, sector or region, etc. Instead, China has a national emissions trading program, which currently includes over two thousand fossil fuel-fired power plants in the power sector<sup>5</sup>. China's emissions trading program is expected to further expand to include emission-intensive companies in other seven industries (petrochemicals, chemicals, building materials, non-ferrous metals, papermaking, steel and aviation)<sup>6</sup>. Neither the project proponent nor the project activities fall into any of these

<sup>3</sup> <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-07-v4.0.pdf>

<sup>4</sup> <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v7.0.0.pdf>

<sup>5</sup> <http://mee.gov.cn/xxgk2018/xxgk/xxgk03/202012/W020201230736907682380.pdf>

<sup>6</sup> [http://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202103/t20210330\\_826728.html](http://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202103/t20210330_826728.html)

emission-intensive sectors. The project reductions and removals will not be included in an emissions trading program or binding emission limit.

### 1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

The project activity has not sought, received, or is planning to receive credit from energy attribute certificates (EAC), renewable energy certificates (REC), Guarantee of Origin (GO), renewable thermal certificates (RTC) or any other forms of GHG-related environmental credit system.

### 1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

The proposed project is a solar power project to generate electricity using solar power resources in the project region and to deliver to the Northwest China Power Grid (NWPGR). The project does not use any products in the supply chain other than solar sources. Therefore, the project activity does not affect the emissions footprint of any products.

## 1.12 Sustainable Development Contributions

The project is a solar power project with total installed capacity of 50MWp, located in Dongle Beitai, Shandan County, Zhangye City, Gansu Province of China.

This project achieved the grid-in electricity is 249,149.213 MWh and total GHG emission reduction is 213,469 tCO<sub>2</sub>e in this monitoring period. Construction and operation of the project provided 16 employment positions for local villagers, which will have a positive effect on the local economy. Thus, the project will achieve SDG 8 Decent Work and Economic Growth.

These contribute to achieve China's stated sustainable development priorities, included strengthening resistance capacity to climate risks, increasing labor force participation rate, increasing the share of clean energy consumption.

Table 1: Sustainable Development Contributions

| Row number | SDG target                                                                                                                                                                           | SDG indicator                                                                                                                                  | Net impact on SDG indicator        | Current project contributions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Contributions over project lifetime                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1)         | SDG7. Ensure access to affordable, reliable, sustainable and modern energy for all<br><br>7.2 By 2030, increase substantially the share of renewable energy in the global energy mix | 7.2.1 Renewable energy share in the total final energy consumption<br>Project Level indicator:<br>Renewable energy supplied to the power grid. | Implemented activities to increase | The project is a solar power project with a total installed capacity of 50MWp, which improve the fossil fuel-based fuel structure in the power grid by providing clean and renewable energy and contributing to energy supply security. The grid-in electricity achieved by this project is 249,149.213 MWh in third monitoring period (01-Nov-2020 to 27-Dec-2023). This contributes to one of the China's actions for promoting sustainable developing, "By 2030, increase the share of non-fossil fuels in primary energy consumption to about 20 percent". | The project is a solar power project with total installed capacity of 50MWp, which improves the fossil fuel-based fuel structure in the power grid by providing clean and renewable energy and contributing to energy supply security. The grid-in electricity of the project was 349,879.471 MWh in the first monitoring period (28-Dec-2013 to 27-Oct-2019) and 79,242.483 MWh in the second monitoring period (28-Dec-2019 to 31-Oct-2020). The total electricity generated during the first three monitoring periods was 678,271.167 MWh. |
| 2)         | SDG 8. Promote                                                                                                                                                                       | Indicator 8.5.2:                                                                                                                               | Implemented                        | The construction and operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The construction and operation of the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|    |                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                        |                                    |                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                              |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p> <p>8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value</p> | <p>Unemployment rate, by sex, age and persons with disabilities</p> <p>Project Level indicator: The number of long-term jobs by the implementation of the project.</p> | activities to increase             | <p>of the project provided 16 (15 man and 1 women) employment positions for local people, which will have a positive effect on the local economy</p>        | <p>project provided 16 employment positions for local people, which will have a positive effect on the local economy</p>                                                                                                                                                                                                                                                                     |
| 3) | <p>SDG13 Take urgent action to combat climate change and its impacts</p> <p>13.2 Integrate climate change measures into national policies, strategies and planning</p>                                                                                                                                                | <p>13.2.2 Total greenhouse gas emissions per year</p> <p>Project Level indicator: Tonnes of greenhouse gas emissions avoided or removed.</p>                           | Implemented activities to increase | <p>The Project has prevented the release of 213,469tCO<sub>2</sub>e into the atmosphere during the third monitoring period (01-Nov-2020 to 27-Dec-2023)</p> | <p>The GHG emission reductions of the project are 299,774 tCO<sub>2</sub>e in the first monitoring period (28-Dec-2013 to 27-Oct-2019) and 67,894 tCO<sub>2</sub>e in the second monitoring period (28-Dec-2019 to 31-Oct-2020). As of the third monitoring period, the project has prevented the release of 581,137 tCO<sub>2</sub>e GHG reductions into the atmosphere accumulatively.</p> |

## 1.13 Commercially Sensitive Information

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

# 2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

## 2.1 Stakeholder Engagement and Consultation

### 2.1.1 Stakeholder Identification

|                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stakeholder Identification</b>              | <p>The stakeholder identification process for the project involved a step-by-step approach. Initially, the project proponent performed a project scope analysis. This included evaluating the geographic boundary, potential environmental impacts, and the communities around the project. Following this, the project proponent engaged in a stakeholder mapping exercise, identifying individuals and organizations with a vested interest or potential influence over the project.</p> <p>The project proponent conducted stakeholder consultation in June 2013. In this monitoring period, on 11-May-2023, the project proponent posted the stakeholder meeting notice on the bulletin board around the project site and informed the relevant staff of the local government by phone call to participate in the stakeholder meeting.</p> <p>The following people are considered as the stakeholders of this project during the whole crediting period.</p> <ul style="list-style-type: none"> <li>- Residents of the nearby village</li> <li>- Staff of the project station</li> <li>- Relevant administrative staff of the local government</li> </ul> |
| <b>Legal or customary tenure/access rights</b> | <p>Based on the Decision on Allocation of State-owned Construction Land in the People's Republic of China of the project, the original land use of the project was state-owned construction land, which was allocated by the</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    | <p>People's Government of Shandan County to project proponent Shandan Xiehe Solar Power Generation Co., Ltd. for land use right. According to Article 12 of the Interim Regulations on the Transfer and Assignment of State-owned Land Use Rights in Urban Areas of the People's Republic of China<sup>7</sup>, the land use right for industrial land is 50 years.</p> <p>There is no uncertainty or change in land tenure arrangements, resource access rights, community-based property rights and customary rights, access rights or land ownership.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Stakeholder diversity and changes over time</b> | <p>The social, economic, and cultural diversity within stakeholder groups:</p> <p>Stakeholder diversity: Residents of the nearby village, staff of the project station and the relevant administrative staff of the local government.</p> <p>The project is in the Gobi Desert and there are few residents in the surrounding area. The nearest residents around the project area are located 1000 meters north of the photovoltaic power plant site, they all belong to the same villages and have similar social and cultural backgrounds.</p> <p>The population of men is significantly higher than that of women about staff in Shandan Xiehe Solar Power Generation Co., Ltd. The education background among villagers and staffers varies from primary school, middle school and high school.</p> <p>Administrative staff of the local government may come from different backgrounds and have different expertise and experience. Government authorities are responsible for regulating and approving the operation of the project, and different government authorities may have different policies and regulations.</p> <p>Over time, the members of each group will adjust, but their</p> |

<sup>7</sup>[https://www.mohurd.gov.cn/gongkai/fdzdgknr/zfhcxjsbwj/gkzhudongfalvfagui/gkzhudongfagui/200102/20010215\\_158938.html](https://www.mohurd.gov.cn/gongkai/fdzdgknr/zfhcxjsbwj/gkzhudongfalvfagui/gkzhudongfagui/200102/20010215_158938.html)

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | groups do not change much in terms of society, economy, culture, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Expected changes in well-being | <p>Local people's well-being: The project can boost the local economy by creating job opportunities. There are 16 long-term workers trained and hired for the installation and maintenance of the project. Moreover, the project is to generate electricity by using renewable solar energy to replace the equivalent electricity generated by fossil-fuel, which can improve the poor local ecological environment (Please see section 2.4.3 for the detail), which fosters a healthier living environment.</p> <p>Social Welfare: Photovoltaic power generation projects can provide stable electricity supply to remote or under covered areas. This not only improves the convenience of life, but also promotes the balanced development of society.</p> <p>Climate Change Impact: The Project has prevented the release of 213,469 tons of carbon into the atmosphere during the third monitoring period (01-Nov-2020 to 27-Dec-2023), playing a crucial role in mitigating climate change.</p> <p>Collectively, these changes have a positive impact on villagers' livelihoods and living environment around the project site.</p> |
| Location of stakeholders       | <p>The location of stakeholders is Dongle Beitai, Shandan County, Zhangye City, Gansu Province of China. The nearest residents in this project located around the project site and within about 1 kilometer of it. Relevant administrative staffs of the local government are far away from the project site, located within the Shandan county. However as mentioned above there are no negative impressions.</p> <p>And the areas outside the project area that are predicted to be impacted by the project is the other counties near Dongle Beitai, Shandan County, Zhangye City, Gansu Province of China, the people live in the area can also use the electricity generated by this renewable power plant. The project has no negative impacts on these people.</p>                                                                                                                                                                                                                                                                                                                                                                 |

|                       |                                                                                                                                                                                              |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Location of resources | The location of territories and resources which stakeholders own or to which they have customary access are located in Dongle Beitan, Shandan County, Zhangye City, Gansu Province of China. |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2.1.2 Stakeholder Consultation and Ongoing Communication

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ongoing consultation                | <p>The project proponent investigated the residential area around the photovoltaic power plant site. A stakeholder consultation meeting was opened by the project proponent, staff of the project station and relevant administrative staff of the local government. The date of the meeting was announced by project proponent to all stakeholders. The meeting participants included both men and women, and different cultural levels. All stakeholders are Han and speak Chinese.</p> <p>At the meeting, the project proponent introduces key implementation schedules or changes of the project, the risks, costs and benefits of the project, (FPIC) process, the process of VCS validation and verification and the validation/verification body's site visit as well as all relevant laws and regulations and heard the stakeholders' opinions about it and determined ongoing communication mechanism. After discussion during the consultation meeting, there is a grievance notebook about the project has been allocated at the entrance of the project proponent's company.</p> <p>During the project implement stage, the stakeholders can register any opinions and suggestions on the project in the grievance notebook at any time, or directly reflect their opinions by telephone.</p> |
| Date(s) of stakeholder consultation | 01-November-2020 to 27-December-2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Communication of monitored results  | This project is a solar power project, according to the requirements of methodology, the parameters that need to be monitored are the electricity supplied to the grid and imported from grid. The monitoring data during a monitoring period compiled into a monitoring report and published on the VCS website, and a spreadsheet of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                      | <p>monitoring results for the monitoring period is provided beside the Grievance book at the project site, anyone who concerns about this project can know the monitoring results in time. At the same time, comments and suggestions from stakeholders regarding the project also will be recorded, and the handling results will be notified to stakeholders via phone or other contact information left by the stakeholders.</p>                                                                                                                                                                                                                                                                                         |
| Consultation records | <p>For the comments and suggestions from stakeholders on the grievance notebook, the project manager will handle these suggestions, they will communicate with the stakeholders through phone or other contact information left by the stakeholders, and notify them of the final handling results. All the comments and suggestions, the communication process, and the final results will be recorded as a report, which will be saved in the company's management documents.</p> <p>During this monitoring period, the project has not received any complaints, comments or suggestions from stakeholders, therefore, no records on the process or methods to document the outcomes of the stakeholder consultation.</p> |
| Stakeholder input    | <p>During this monitoring period, the project has not received any complaints by telephone or in the grievance notebook from stakeholders.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### 2.1.3 Free, Prior, and Informed Consent

|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Consent | <p>Prior to the construction of the project, questionnaires were distributed to surrounding residents to solicit their opinions on the implementation of the project on 25-June-2013. 30 questionnaires have been handed in total and all of them have been received successfully from the stakeholder representatives, respectively from the local government, and surrounding villages.</p> <p>The project proponent designed a questionnaire to collect the comments of relevant stakeholders. The one-page questionnaire was designed with the following sections:</p> <ol style="list-style-type: none"> <li>1) Brief introduction of the project</li> </ol> |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2) Basic information of respondent

## 3) Major question issues

The specific question issues and results of the respondents are shown in table as below:

| Item                                                                   | Options         | Results | Percentage |
|------------------------------------------------------------------------|-----------------|---------|------------|
| Whether the project will cause water pollution?                        | Yes             | 0       | 0.00%      |
|                                                                        | No              | 30      | 100.00%    |
|                                                                        | Don't know      | 0       | 0.00%      |
| Whether the project will cause air pollution?                          | Yes             | 0       | 0.00%      |
|                                                                        | No              | 28      | 93.33%     |
|                                                                        | Don't know      | 2       | 6.67%      |
| Whether the project will cause noise pollution?                        | Yes             | 0       | 0.00%      |
|                                                                        | No              | 25      | 83.33%     |
|                                                                        | Don't know      | 5       | 16.67%     |
| Whether the project will impact on soil environment?                   | Yes             | 0       | 0.00%      |
|                                                                        | No              | 26      | 86.67%     |
|                                                                        | Don't know      | 4       | 13.33%     |
| Whether the project will impact on the surrounding animals and plants? | Yes             | 0       | 0.00%      |
|                                                                        | No              | 25      | 83.33%     |
|                                                                        | Don't know      | 5       | 16.67%     |
| Impact on the local residents' employment opportunities and income.    | Advantageous    | 26      | 86.67%     |
|                                                                        | No impact       | 4       | 13.33%     |
|                                                                        | Disadvantageous | 0       | 0.00%      |

|                                           |                 |    |         |
|-------------------------------------------|-----------------|----|---------|
| Impact on the local economic development. | Advantageous    | 28 | 93.33%  |
|                                           | No impact       | 2  | 6.67%   |
|                                           | Disadvantageous | 0  | 0.00%   |
| Impact on the local power grid and NWP.   | Advantageous    | 27 | 90.00%  |
|                                           | No impact       | 3  | 10.00%  |
|                                           | Disadvantageous | 0  | 0.00%   |
| Attitude on developing the project.       | Support         | 30 | 100.00% |
|                                           | Oppose          | 0  | 0.00%   |
|                                           | Don't know      | 0  | 0.00%   |

The final questionnaire results show that most of the stakeholders interviewed expressed the project will benefit the local environment, economy and social development, some of them thought there is no significant impact on those, and no negative impact were raised by stakeholders.

During this monitoring period, to continuously follow up on the opinions of surrounding residents on the implementation of the project, the project proponent opened a consultation meeting for the local residents around the photovoltaic power plant site, staff of the project station and relevant administrative staff of the local government.

The date of the meeting was announced by the project proponent to all stakeholders by bulletin board or telephone. The meeting participants included both men and women, and different cultural levels. All stakeholders are Han and speak Chinese.

At the meeting, firstly, the project proponent introduces key implementation schedules or changes of the project, the risks, costs and benefits of the project, (FPIC) process, the process of VCS verification and the verification body's site visit.

Secondly, after discussion during the consultation meeting, in order to continuously follow up on the opinions of surrounding residents on the project, there is a grievance

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p>notebook about the project which has been allocated at the entrance of the project proponent's company. During this monitoring time, the stakeholders can register any opinions and suggestions on the project in the grievance notebook at any time, or directly reflect their opinions by telephone.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Outcome of FPIC | <p>Due to the pre implementation of the project, opinions from surrounding residents were solicited through questionnaires in advance and consensus was reached, as described above, the final questionnaire results show that most of the stakeholders interviewed expressed the project will benefit the local environment, economy and social development, some of them thought there is no significant impact on those, and no negative impact were raised by stakeholders.</p> <p>During this monitoring time, the social, economic and environmental impact caused by the project on the surrounding residents is minimal and will not affect the normal lives of local residents, and no relevant feedback was received in the grievance notebook during this monitoring period.</p> <p>As described in section</p> <p>Based on the Decision on Allocation of State-owned Construction Land in the People's Republic of China of the project, the original land use of the project was state-owned construction land, which was allocated by the People's Government of Shandan County to project proponent Shandan Xiehe Solar Power Generation Co., Ltd. for land use right. The original land of the project was the Gobi Desert owned by the state, and no residents had settled on it. The project has not encroached on land, relocated people without consent, and forced physical or economic displacement.</p> |

#### 2.1.4 Grievance Redress Procedure

| Grievances received                                       | Resolution and outcome                                                                                                                                                    |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| There is no grievance raised during the monitoring period | LSC meetings were held during this monitoring period to inform stakeholders about the ongoing input/grievance mechanism. In order to ensure all input received during the |

LSC has been taken, key implementation schedules or changes of the project will be communicated to the local authority, who will inform the neighbourhood committee and the local residents, the comments and suggestions from residents will be collected by the local authority meanwhile.

In order to resolve complaints related to the project, PP has developed a complaint resolution process with stakeholders to ensure fair, transparent and timely processing. Here are the grievance resolution steps we have developed in partnership with our stakeholders:

1. Receiving Complaints: Any complaints related to the project will be received and recorded. The project proponent has placed a comment book in the front office of the company and posted the contact person and contact information for stakeholders to submit complaints, either in writing, orally or through a designated contact person.

2. Hearing: Once a complaint is received, PP will schedule a hearing or meeting so that stakeholders can express their views and concerns. This will provide an open platform to ensure that all relevant information is fully considered.

3. Response: Following the hearing or meeting, PP will provide a written response confirming that they have understood and documented the stakeholder's complaint and explaining the actions they will take. This will ensure transparency and continuity of communication.

4. Resolution of Complaints: PP will use our best efforts to resolve complaints within a reasonable period of time. This may include adopting appropriate conflict resolution methods, such as mediation, negotiation or other appropriate solutions. They will work with stakeholders to ensure they are satisfied with the solution.

These complaint resolution steps will ensure that we are able to address any project-related complaints in a timely and fair manner, while respecting the rights and concerns of the stakeholders.

In addition to the regular LSC meetings, the PP has also

set up a grievance book at the project site to collect and record the relevant opinions of the stakeholders. There is no grievance raised during the monitoring period.

### 2.1.5 Public Comments

| Summary of comments received                                                                         | Actions taken                  |
|------------------------------------------------------------------------------------------------------|--------------------------------|
| The Project has not received any complaints or comments during or outside the public comment period. | There are no comments received |

## 2.2 Risks to Stakeholders and the Environment

### 2.2.1 Management Experience

The business scope of Shandan Xiehe Company includes the development, construction, and operation of solar photovoltaic power plants; Consulting, services, and research and development of photovoltaic power generation technology, as well as sales of photovoltaic power generation products; Investment in solar energy projects, etc.

During the construction of the photovoltaic power station, the company established an engineering command center responsible for the construction and management of the photovoltaic power station; After being put into operation, based on production and business needs, combined with previous experience in managing and operating photovoltaic power plants (Delingha Xiehe 30MWp Photovoltaic Power Generation Project), following the principles of lean, unified, efficient, and reasonable, enterprise management is implemented for the establishment of operating institutions. For engaging communities, when conducting environmental impact assessments on projects in accordance with the law, the company will hire a professional team to conduct investigations and generate environmental impact assessment reports (EIA).

Climate Bridge (Shanghai) Ltd., who has tremendous experience in development of Renewable energy generation projects under CDM or VCS, such as CDM 5716, CDM 8099 and VCS 1143 which can help it coordinate various issues in the project development and sales process in the whole project lifetime. It is responsible for the development of the project and purchasing the carbon credit of the project.

The project management team possesses the capacity to engage with the community, including effective communication, understanding of the community's historical, cultural, economic, and social contexts, as well as organizing community meetings and activities and coordinating the involvement of diverse stakeholders.

## 2.2.2 Risk assessment

|                                                            | Risk identified    | Mitigation or preventative measure(s) taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural and human-induced risks to stakeholders' wellbeing | No risk identified | <p>The project is located in the Gobi Desert, where the ecological environment is very fragile. The project area was never inhabited by anyone. Therefore, the project itself does not affect the living environment of residents. During this monitoring period, the photovoltaic power station in the project area has been running smoothly for nearly 10 years, and the soil disturbance caused during the construction period has already stopped, so there is no soil erosion for the residents during this monitoring period. The Environmental Impact Assessment (EIA) of this project completed by Lanzhou University has been examined and approved by Gansu Environmental Protection Bureau (Ganhuanpingbiaozi [2012] No.118) on October 23rd of 2012. It also obtained the approval letters from governmental authorities: Development and Reform Commission (DRC), as well as Environment Protection Agency (EPA) of Gansu Province.</p> <p>Therefore, the project complies with local environmental protection and economic development policies.</p> |
| Risks to stakeholder participation                         | No risk identified | <p>Prior to the start of the project, the project proponent held a stakeholder meeting and followed FPIC's process to understand the opinions of stakeholders in advance. Therefore, there is no risk to stakeholder participation. The Environmental Impact Assessment (EIA) of this project completed by Lanzhou University has been examined and approved by Gansu Environmental Protection Bureau (Ganhuanpingbiaozi [2012] No.118) on October 23rd of 2012. It also obtained the approval letters from governmental authorities: Development and Reform Commission (DRC), as well as Environment Protection Agency (EPA) of</p>                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                                       |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       |                     | <p>Gansu Province.</p> <p>And the mechanism for on-going communication with local stakeholders has been set up.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Working conditions                                    | No risk identified. | <p>Establish a patrol inspection system, operation supervision system, maintenance and repair system, and carry out safe daily maintenance of relevant instruments, meters and equipment of production equipment.</p> <p>Before starting work, operators of photovoltaic power plants need to receive necessary safety education and training and pass the examination before entering the production site for work.</p> <p>The project has strictly implemented national and industry regulations and standards on labor safety and health, as well as Chinese labor law and local requirements, mitigation measures have been undertaken as per the approved EIA and carry out regular occupational health and safety testing every year to ensure the safety and healthy working environment.</p>                                            |
| Safety of women and girls                             | No risk identified  | <p>This program does not admit underage girls. In the design phase of the project, the safety of women was taken into account and corresponding preventive measures were taken. For example, establish safe sanitation facilities to ensure that women are not subjected to gender discrimination or gender-based violence in the management of their faces. During the implementation of the project, all personnel involved in the project are regularly trained in gender sensitivity, including awareness of gender discrimination and gender-based violence, and how to prevent and respond to these issues. The project has established effective monitoring and reporting mechanisms so that women can report any safety issues or acts of gender discrimination, ensuring that their voices are adequately addressed and protected.</p> |
| Safety of minority and marginalized groups, including | No risk identified  | <p>Project activities provided equal job opportunities, does not discriminate against marginalized groups, and provided some social</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                                                                                                                               |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| children                                                                                                                                      |                    | <p>support and assistance for local marginalized groups; The project does not recruit child workers.</p> <p>Therefore, the project does not pose a risk to marginalized groups, including children.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers) | No risk identified | <p><b>Construction period</b></p> <p><b>Air pollution</b></p> <p>The project is located in wide gobi desert, where the airflow condition is well, therefore by controlling the appropriate number of the construction vehicles, the waste gas from vehicles was reduced and diffused quickly, and after the construction work finished, the impact of the air pollution disappeared accordingly.</p> <p><b>Wastewater</b></p> <p>The wastewater mainly came from the living area. The wastewater from washing was collected and processed with a precipitation tank and the clean water was purled around the construction area to reduce the dust. The excrement was composed of fertilizer. Based on the fact that the living wastewater was little, and the climate was dry, after the above treatment the impact of the wastewater was limited.</p> <p><b>Noise</b></p> <p>The noise mainly came from the operation of the machines, which was controlled by measures like maintenance of the machines, layout of the construction area, and operation time management. The main construction area meets the standards of 60dB (A) during the day and 50dB (A) at night in Class 2 areas of the "Environmental Quality Standards for Noise" (GB3096-2008),<sup>8</sup> respectively, 50m and 200m away from the construction area boundary.</p> |

<sup>8</sup> [https://www.mee.gov.cn/ywgz/fgbz/bz/bzwb/wlhj/shjzlbz/200809/t20080917\\_128815.shtml](https://www.mee.gov.cn/ywgz/fgbz/bz/bzwb/wlhj/shjzlbz/200809/t20080917_128815.shtml)

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>The main construction area is about 1000m away from the nearest village, so it will not have a noise impact on the surrounding villages during the construction process.</p> <p><b>Solid waste</b></p> <p>The solid waste mainly came from the excavation for the base of support of the module, main transformer, inverter and the cable, and there was some living rubbish. The excavation waste was backfilled properly, and the living rubbish was collected and transported to the landfill treatment plant of Shandan County. Therefore, the solid waste was very limited.</p> <p><b>Operation period</b></p> <p><b>Air pollution</b></p> <p>The on-site staff of the project uses electric heating in winter, with no boiler exhaust emissions.</p> <p><b>Wastewater</b></p> <p>The main operation period of this project is the cleaning wastewater of dust on the surface of solar panels, with an annual output of about 3870 m<sup>3</sup>. This part of the wastewater is generated irregularly and intermittently, with intervals of about 60days. The wastewater mainly contains dust. Due to the project being located on a desert and Gobi beach, the area is dry with little rainfall, and there are no surface water bodies. The dust cleaning wastewater on the surface of the solar cell module is centralized and used to irrigate the roadside trees on the incoming road, achieving secondary utilization of water resources.</p> <p><b>Noise</b></p> <p>Noise was controlled by measures like maintenance of the machines, layout of the</p> |
|--|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |  |                                                                                                                                                                                                                                                                                                                                                                           |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <p>construction area, operation time management.</p> <p>Solid waste</p> <p>The excavation waste was backfilled properly, and the living rubbish was collected and transported to landfill treatment plant of Shandan County. Therefore, the solid waste was very limited.</p> <p>Overall, these pollutions do not have any impact on the residents around the project</p> |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2.3 Respect for Human Rights and Equity

### 2.3.1 Labor and Work

|                   | Risks identified <sup>9</sup> | Mitigation or preventative measure(s) taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discrimination    | No risk identified.           | Any discrimination based on any ground such as race, nation, ethnic group, sex or religion is prohibited in the job market by the Labour Law of the People's Republic of China . The project proponent shall strictly obey the Labour Law of the People's Republic of China and has established the anti-discrimination rules in the project design and implementation, including providing equal job opportunities for any qualified workers regardless of gender, race, religion, no extra requirement for women or minorities, and equal pay for equal work, etc. |
| Sexual harassment | No risk identified.           | Any discrimination based on sex                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

<sup>9</sup> The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

|                                 |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 |                     | <p>is prohibited in the job market by the Labour Law of the People's Republic of China. In case any discrimination or sexual harassment occurs, anyone could report to the project proponent or file a complaint to the local government to make sure that relevant laws and regulations are followed. At the same time, the project proponent will also assign a dedicated person to leave a phone number responsible for receiving any complaints from workers during work. Once relevant complaints are received, they will be recorded in the grievance notebook for timely processing (see section 2.1.4 for the detail).</p> |
| Gender equity in labor and work | No risk identified. | <p>Any discrimination based on sex is prohibited in the job market by the Labor Law of the People's Republic of China. The project proponent shall strictly obey the Labor Law of the People's Republic of China and has established the anti-discrimination rules in the project design and implementation, including providing equal job opportunities for any qualified workers regardless of gender, no extra requirement for women or minorities, and equal pay for equal work, etc.</p>                                                                                                                                      |
| Forced labor                    | No risk identified  | <p>The project proponent has established reasonable labor rules and regulations, and the working hours are within the time range specified by the state.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|                   |                    |                                                                                                                                                                |
|-------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Child labor       | No risk identified | The recruitment of employees by the project proponent complies with the Labor Law of the People's Republic of China and will not employ child labor.           |
| Human trafficking | No risk identified | The recruitment of employees by the project proponent complies with the Labor Law of the People's Republic of China and will not involve in human trafficking. |

### 2.3.2 Human Rights

| Risks identified    | Mitigation or preventative measure(s) taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No risk identified. | <p>The implementation of the project activity complies with all applicable laws and regulations (Section 1.15 of the report). The Environmental Impact Assessment (EIA) of this project completed by Lanzhou University has been examined and approved by Gansu Environmental Protection Bureau (Ganhuanpingbiaozi [2012] No.118) on October 23rd of 2012.</p> <p>In the environmental impact assessment, the project proponent conducted a questionnaire survey of local communities and customary rights holders (nearby residents) near the project to consult their opinions on the implementation of the project. Due to the impact on the surrounding residents is minimal and will not affect the normal lives of local residents, local residents generally support the establishment of the photovoltaic power station, which can bring employment opportunities.</p> <p>And it is not involved in IPs, LCs, and customary rights holders.</p> |

### 2.3.3 Indigenous Peoples and Cultural Heritage

| Risks identified | Mitigation(s) or preventative measure taken |
|------------------|---------------------------------------------|
|------------------|---------------------------------------------|

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>No risk identified.</b></p> | <p>The project activity located in a desert and unused land, while it does not affect the daily grazing and other agricultural activities of nearby residents. There is no property in Dongle town of Shandan county inscribed on UNESCO's World Heritage List<sup>10</sup>. The project activity does not affect cultural heritage consistent with local communities' practices or UNESCO Cultural Heritage conventions. All of nearby residents are ethnic Hans. Due to respect to their unique culture, the project proponent and fully respects local customs and taboos during their communication.</p> <p>The project improves the local environment, and the project does not involve Indigenous Peoples and Cultural Heritage.</p> |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 2.3.4 Property Rights

| Risks identified                 | Mitigation or preventative measure(s) taken                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>No risk identified</b></p> | <p>Based on the Decision on Allocation of State-owned Construction Land in the People's Republic of China of the project, the original land use of the project was state-owned construction land, which was allocated by the People's Government of Shandan County to project proponent Shandan Xiehe Solar Power Generation Co., Ltd. for land use right.</p> <p>The approval of Environmental Impact Assessment (EIA), Project Approval, and the business license of the project proponent is evidence for legislative rights. The Project Construction Contract is the evidence for the ownership of the plant, equipment and power generating.</p> <p>Therefore, the project proponent Shandan Xiehe Solar Power Generation Co., Ltd owned the project land use right and the property</p> |

<sup>10</sup> <https://whc.unesco.org/en/statesparties/cn>

rights of the project facilities.

### 2.3.5 Benefit Sharing

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Summary of the benefit sharing plan</b>          | <p>The ownership and property rights of the project belong entirely to the project proponent Shandan Xiehe Solar Power Generation Co., Ltd. For the residents around the project, they have fully negotiated before the project starts. Due to the impact on the surrounding residents is minimal and will not affect the normal lives of local residents, local residents generally support the establishment of the photovoltaic power station, which can bring employment opportunities.</p> <p>In the end, they will not participate in the sharing of carbon sequestration benefits.</p> |
| <b>Benefit sharing during the monitoring period</b> | All carbon benefits of the project belong to the project proponent. There is no sharing plan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 2.4 Ecosystem Health

|                                               | <b>Risk identified</b> | <b>Mitigation or preventative measure(s) taken during the monitoring period</b>                                                                                                                                                                                                                                |
|-----------------------------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Impacts on biodiversity and ecosystems</b> | No risk identified     | According to the EIA and its approval there was not risk identified on biodiversity and ecosystems.                                                                                                                                                                                                            |
| <b>Soil degradation and soil erosion</b>      | No risk identified     | During this monitoring period, the photovoltaic power station in the project area has been running smoothly for nearly 10 years and local vegetation has been restored. The soil disturbance caused during the construction period has already stopped, so there is no soil erosion in this monitoring period. |
| <b>Water consumption and stress</b>           | No risk identified.    | Both production and domestic water are supplied by the centralized water supply network system in the power station area. A                                                                                                                                                                                    |

|  |                                                                                                        |
|--|--------------------------------------------------------------------------------------------------------|
|  | 200m <sup>3</sup> production and fire water storage tank has been built within the power station area. |
|--|--------------------------------------------------------------------------------------------------------|

#### 2.4.1 Rare, Threatened, and Endangered species

The Project is located in Dongle Beitan, Shandan County, Zhangye City, Gansu Province of China. The land in the project area is all desert and Gobi land (unused land). The project is not located in or near the habitat of rare, threatened or endangered animals, according to the official websites of national and local environmental authorities and nature conservation agencies and the approved EIA.

#### 2.4.2 Introduction of species

N/A, the project does not include planting or species introduction.

#### 2.4.3 Ecosystem conversion

The project is not a ARR, ALM, WRC or ACoGS project, thus this part is not applicable.

## 3 IMPLEMENTATION STATUS

### 3.1 Implementation Status of the Project Activity

The project was put into full operation on 28-Dec-2013. The electricity generated by the Project is delivered to NWPG. The installed capacity of the Project is about 50 MWp which form 50 sets of power generation units (sub-systems), each sub-system is about 1MW and is equipped with two inverters. The technical parameters of the main equipment for the project are shown in Table 3-1. The expected grid-in electricity in the first operation year is about 78,386 MWh and the accumulative decay rate during the whole lifetime in 25 years is 20%. Therefore, the expected annual grid-in electricity in 25 years is 70,861.15 MWh, at 1,417 operational hours with a PLF of 16.18%; and the annual grid-in electricity in the first 10 years is 75,564.33 MWh, at 1,511 operational hours with a PLF of 17.25%. For the first 10-year crediting period, use annual grid-in electricity of 75,564.33 MWh for GHG reduction calculation.

**Table 3–1 Parameters of the equipment used in the proposed project**

| Photovoltaic Modules (Polysilicon) |                                         |                                |                               |
|------------------------------------|-----------------------------------------|--------------------------------|-------------------------------|
| Manufacturer                       | Tianwei New Energy (Yangzhou) Co., Ltd. | Shandong Dahai Group Co., Ltd. | Jinko Solar Holding Co., Ltd. |
| Quantity                           | 3,014                                   | 44,273                         | 153,658                       |
| Type                               | TW245P660                               | DHP60-245                      | JKM250P-60                    |
| Rated maximum power                | 245 W                                   | 245 W                          | 250 W                         |

|                             |                                       |          |          |
|-----------------------------|---------------------------------------|----------|----------|
| (Pmax)                      |                                       |          |          |
| Maximum power voltage (Vmp) | 30.0 V                                | 31.00 V  | 30.4 V   |
| Maximum power current (Imp) | 8.17 A                                | 7.90 A   | 8.23 A   |
| Open circuit voltage (Voc)  | 37.2 V                                | 37.35 V  | 37.6 V   |
| Short circuit current (Isc) | 8.74 A                                | 8.56 A   | 8.81 A   |
| Lifetime                    | 25 years                              | 25 years | 25 years |
| Inverter                    |                                       |          |          |
| Manufacturer                | Sungrow Power Supply Co., Ltd         |          |          |
| Quantity                    | 100                                   |          |          |
| Type                        | SG500MX                               |          |          |
| Rated power                 | 500 kW                                |          |          |
| Rated output voltage        | 3-315 V                               |          |          |
| Max output current          | 1,008 A                               |          |          |
| Lifetime                    | 25 years                              |          |          |
| Box transformer             |                                       |          |          |
| Manufacturer                | Jiangsu Huapeng Transformer Co., Ltd. |          |          |
| Quantity                    | 50                                    |          |          |
| Type                        | ZGSF11-Z.G-1100/35                    |          |          |
| Rated power                 | 1100/550 - 550 kVA                    |          |          |
| Rated voltage               | 38.5±2×2.5%/0315 - 0.315 kV           |          |          |
| Rated current               | 16.5/1008.1 – 1008.1 A                |          |          |
| Rated frequency             | 50 Hz                                 |          |          |
| Lifetime                    | 25 years                              |          |          |

The electricity generated from inverters is transformed to 35kV by box transformers before supplied to the switching station via five 35kV lines (every ten sub-systems connect to one line), and then transformed to 110kV through the main transformer before delivered to Beitan 110kV Substation and finally to NWPG. Electricity meters are installed in the Beitan 110kV substation to monitor the quantity of electricity generated in this project and delivered to the grid.

During this monitoring period, the project is operated and implemented in accordance with the registered VCS PD version 2.0 dated 14-Oct-2014. Neither emergencies (including of overhaul times, downtimes of equipment, exchange of equipment, etc.) happened to the monitoring system in this monitoring period, nor did events or situations occur during the monitoring period which may impact the applicability of the methodology and the GHG emission reductions.

## 3.2 Deviations

### 3.2.1 Methodology Deviations

There is no deviation applied to this monitoring period.

### 3.2.2 Project Description Deviations

There is no project description deviation applied to this monitoring period.

### 3.3 Grouped Projects

The project has been designed to be a single installation of an activity, not a grouped project.

### 3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

## 4 DATA AND PARAMETERS

### 4.1 Data and Parameters Available at Validation

|                                                                                              |                                                                                               |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | $EF_{grid,CM,y}$                                                                              |
| Data unit                                                                                    | tCO <sub>2</sub> e/MWh                                                                        |
| Description                                                                                  | Combined margin CO <sub>2</sub> emission factor for grid connected power generation in year y |
| Source of data                                                                               | Calculated based on “Tool to calculate the emission factor for an electricity system”.        |
| Value applied                                                                                | 0.8568                                                                                        |
| Justification of choice of data or description of measurement methods and procedures applied | Official and authoritative statistic data                                                     |
| Purpose of data                                                                              | Calculation of baseline emissions                                                             |
| Comments                                                                                     | -                                                                                             |

### 4.2 Data and Parameters Monitored

|                  |                                                                                                 |
|------------------|-------------------------------------------------------------------------------------------------|
| Data / Parameter | $EG_{facility,y}$                                                                               |
| Data unit        | MWh                                                                                             |
| Description      | Quantity of net electricity generation supplied by the project plant/unit to the grid in year y |
| Source of data   | Calculated                                                                                      |

| Description of measurement methods and procedures to be applied | Calculated based on the electricity delivered to the grid by the project ( $EG_{out,y}$ ) and the electricity consumed by the project which is imported from the grid ( $EG_{in,y}$ ).                                                                                                                                                                                                                                       |      |             |                         |            |                         |            |                         |            |                         |            |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|-------------------------|------------|-------------------------|------------|-------------------------|------------|-------------------------|------------|
| Frequency of monitoring/recording                               | Measured continuously, recorded daily and aggregated monthly                                                                                                                                                                                                                                                                                                                                                                 |      |             |                         |            |                         |            |                         |            |                         |            |
| Value monitored                                                 | <p>Please see the ERs calculation table for the detail</p> <table border="1"> <thead> <tr> <th>Year</th><th>Value (MWh)</th></tr> </thead> <tbody> <tr> <td>01-Nov-2020-31-Dec-2020</td><td>11,323.979</td></tr> <tr> <td>01-Jan-2021-31-Dec-2021</td><td>79,538.588</td></tr> <tr> <td>01-Jan-2022-31-Dec-2022</td><td>80,561.433</td></tr> <tr> <td>01-Jan-2023-27-Dec-2023</td><td>77,725.213</td></tr> </tbody> </table> | Year | Value (MWh) | 01-Nov-2020-31-Dec-2020 | 11,323.979 | 01-Jan-2021-31-Dec-2021 | 79,538.588 | 01-Jan-2022-31-Dec-2022 | 80,561.433 | 01-Jan-2023-27-Dec-2023 | 77,725.213 |
| Year                                                            | Value (MWh)                                                                                                                                                                                                                                                                                                                                                                                                                  |      |             |                         |            |                         |            |                         |            |                         |            |
| 01-Nov-2020-31-Dec-2020                                         | 11,323.979                                                                                                                                                                                                                                                                                                                                                                                                                   |      |             |                         |            |                         |            |                         |            |                         |            |
| 01-Jan-2021-31-Dec-2021                                         | 79,538.588                                                                                                                                                                                                                                                                                                                                                                                                                   |      |             |                         |            |                         |            |                         |            |                         |            |
| 01-Jan-2022-31-Dec-2022                                         | 80,561.433                                                                                                                                                                                                                                                                                                                                                                                                                   |      |             |                         |            |                         |            |                         |            |                         |            |
| 01-Jan-2023-27-Dec-2023                                         | 77,725.213                                                                                                                                                                                                                                                                                                                                                                                                                   |      |             |                         |            |                         |            |                         |            |                         |            |
| Monitoring equipment                                            | -                                                                                                                                                                                                                                                                                                                                                                                                                            |      |             |                         |            |                         |            |                         |            |                         |            |
| QA/QC procedures to be applied                                  | -                                                                                                                                                                                                                                                                                                                                                                                                                            |      |             |                         |            |                         |            |                         |            |                         |            |
| Purpose of the data                                             | Calculation of baseline emissions                                                                                                                                                                                                                                                                                                                                                                                            |      |             |                         |            |                         |            |                         |            |                         |            |
| Calculation method                                              | $EG_{facility,y} = EG_{out,y} - EG_{in,y}$                                                                                                                                                                                                                                                                                                                                                                                   |      |             |                         |            |                         |            |                         |            |                         |            |
| Comments                                                        | -                                                                                                                                                                                                                                                                                                                                                                                                                            |      |             |                         |            |                         |            |                         |            |                         |            |

| Data / Parameter                                                | $EG_{out,y}$                                                                                                                                                                                                                                                                                               |      |             |                         |            |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|-------------------------|------------|
| Data unit                                                       | MWh                                                                                                                                                                                                                                                                                                        |      |             |                         |            |
| Description                                                     | Quantity of the electricity delivered to the grid by the project in year y                                                                                                                                                                                                                                 |      |             |                         |            |
| Source of data                                                  | On-site measurement                                                                                                                                                                                                                                                                                        |      |             |                         |            |
| Description of measurement methods and procedures to be applied | Use calibrated electric meters. The accuracy of the meter(s) is 0.2s. Data monitored continuously and aggregated monthly. According to power purchase agreement of the project, the time of meter reading for $EG_{out,y}$ and $EG_{in,y}$ with the power company is at 24:00 of the last day every month. |      |             |                         |            |
| Frequency of monitoring/recording                               | Measured continuously, recorded daily and aggregated monthly                                                                                                                                                                                                                                               |      |             |                         |            |
| Value monitored                                                 | <p>Please see the ERs calculation table for the detail</p> <table border="1"> <thead> <tr> <th>Year</th><th>Value (MWh)</th></tr> </thead> <tbody> <tr> <td>01-Nov-2020-31-Dec-2020</td><td>11,599.859</td></tr> </tbody> </table>                                                                         | Year | Value (MWh) | 01-Nov-2020-31-Dec-2020 | 11,599.859 |
| Year                                                            | Value (MWh)                                                                                                                                                                                                                                                                                                |      |             |                         |            |
| 01-Nov-2020-31-Dec-2020                                         | 11,599.859                                                                                                                                                                                                                                                                                                 |      |             |                         |            |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                         |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                                | 01-Jan-2021-31-Dec-2021                                                                                                                                                                                                                                                                                                                                                                                                                                         | 80,680.388                                                              |
|                                | 01-Jan-2022-31-Dec-2022                                                                                                                                                                                                                                                                                                                                                                                                                                         | 81,754.713                                                              |
|                                | 01-Jan-2023-27-Dec-2023                                                                                                                                                                                                                                                                                                                                                                                                                                         | 78,924.710                                                              |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                         |
| Monitoring equipment           | Electric meters                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                         |
|                                | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Main meter M1                                                           |
|                                | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MK6E                                                                    |
|                                | Serial No.                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 213211573                                                               |
|                                | Accuracy                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.2S                                                                    |
|                                | Calibration frequency                                                                                                                                                                                                                                                                                                                                                                                                                                           | Annually                                                                |
|                                | Date of calibration                                                                                                                                                                                                                                                                                                                                                                                                                                             | 03-Dec-2019<br>03-Dec-2020<br>03-Dec-2021<br>03-Dec-2022<br>03-Dec-2023 |
|                                | Validity                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 02-Dec-2020<br>02-Dec-2021<br>02-Dec-2022<br>02-Dec-2023<br>02-Dec-2024 |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                         |
|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                         |
| QA/QC procedures to be applied | Cross check measurement results with records for Electricity Transaction Notes. The calibration of meters was conducted annually subject to technology requirements of “Management Regulations for Power Metered Device Technology” (DL/T448-2016) <sup>11</sup> . The paper and electronic versions of the data monitored by the relevant electricity meters will be archived and managed by the project proponent for easy inspection and review at any time. |                                                                         |
| Purpose of the data            | Calculation of baseline emissions                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                         |
| Calculation method             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                         |
| Comments                       | -                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                         |
| Data / Parameter               | $EG_{in,y}$                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                         |
| Data unit                      | MWh                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                         |
| Description                    | Quantity of the electricity consumed by the project which is                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                         |

<sup>11</sup> <https://ebook.chinabuilding.com.cn/zbooklib/bookpdf/probation?SiteID=1&bookID=110000>

|                                                                 | imported from the grid in year y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--|------|---------------|-------------------------|---------|-------------------------|-----------|-------------------------|-----------|-------------------------|-----------|------|------|-----------------------|----------|----------|---------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|----------|-------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Source of data                                                  | On-site measurement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Description of measurement methods and procedures to be applied | Use calibrated electric meters. The accuracy of the meter(s) is 0.2s. Data monitored continuously and aggregated monthly. According to power purchase agreement of the project, the time of meter reading for EGout, y and EGIN,y with the power company is at 24:00 of the last day every month.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Frequency of monitoring/recording                               | Measured continuously, recorded daily and aggregated monthly                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Value monitored                                                 | Please see the ERs calculation table for the detail. <table><tr><th>Year</th><th>Value (MWh)</th></tr><tr><td>01-Nov-2020-31-Dec-2020</td><td>275.880</td></tr><tr><td>01-Jan-2021-31-Dec-2021</td><td>1,141.800</td></tr><tr><td>01-Jan-2022-31-Dec-2022</td><td>1,193.280</td></tr><tr><td>01-Jan-2023-27-Dec-2023</td><td>1,199.497</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                         |  | Year | Value (MWh)   | 01-Nov-2020-31-Dec-2020 | 275.880 | 01-Jan-2021-31-Dec-2021 | 1,141.800 | 01-Jan-2022-31-Dec-2022 | 1,193.280 | 01-Jan-2023-27-Dec-2023 | 1,199.497 |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Year                                                            | Value (MWh)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| 01-Nov-2020-31-Dec-2020                                         | 275.880                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| 01-Jan-2021-31-Dec-2021                                         | 1,141.800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| 01-Jan-2022-31-Dec-2022                                         | 1,193.280                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| 01-Jan-2023-27-Dec-2023                                         | 1,199.497                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Monitoring equipment                                            | Electric meters <table><tr><th>Item</th><th>Main meter M1</th><th>Backup meter M1'</th></tr><tr><td>Type</td><td>MK6E</td><td>MK6E</td></tr><tr><td>Serial No.</td><td>213211573</td><td>213211574</td></tr><tr><td>Accuracy</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Calibration frequency</td><td>Annually</td><td>Annually</td></tr><tr><td>Date of calibration</td><td>03-Dec-2019<br/>03-Dec-2020<br/>03-Dec-2021<br/>03-Dec-2022<br/>03-Dec-2023</td><td>03-Dec-2019<br/>03-Dec-2020<br/>03-Dec-2021<br/>03-Dec-2022<br/>03-Dec-2023</td></tr><tr><td>Validity</td><td>02-Dec-2020<br/>02-Dec-2021<br/>02-Dec-2022<br/>02-Dec-2023<br/>02-Dec-2024</td><td>02-Dec-2020<br/>02-Dec-2021<br/>02-Dec-2022<br/>02-Dec-2023<br/>02-Dec-2024</td></tr></table> |                                                                         |  | Item | Main meter M1 | Backup meter M1'        | Type    | MK6E                    | MK6E      | Serial No.              | 213211573 | 213211574               | Accuracy  | 0.2S | 0.2S | Calibration frequency | Annually | Annually | Date of calibration | 03-Dec-2019<br>03-Dec-2020<br>03-Dec-2021<br>03-Dec-2022<br>03-Dec-2023 | 03-Dec-2019<br>03-Dec-2020<br>03-Dec-2021<br>03-Dec-2022<br>03-Dec-2023 | Validity | 02-Dec-2020<br>02-Dec-2021<br>02-Dec-2022<br>02-Dec-2023<br>02-Dec-2024 | 02-Dec-2020<br>02-Dec-2021<br>02-Dec-2022<br>02-Dec-2023<br>02-Dec-2024 |
| Item                                                            | Main meter M1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Backup meter M1'                                                        |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Type                                                            | MK6E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MK6E                                                                    |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Serial No.                                                      | 213211573                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 213211574                                                               |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Accuracy                                                        | 0.2S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.2S                                                                    |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Calibration frequency                                           | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Annually                                                                |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Date of calibration                                             | 03-Dec-2019<br>03-Dec-2020<br>03-Dec-2021<br>03-Dec-2022<br>03-Dec-2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 03-Dec-2019<br>03-Dec-2020<br>03-Dec-2021<br>03-Dec-2022<br>03-Dec-2023 |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| Validity                                                        | 02-Dec-2020<br>02-Dec-2021<br>02-Dec-2022<br>02-Dec-2023<br>02-Dec-2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 02-Dec-2020<br>02-Dec-2021<br>02-Dec-2022<br>02-Dec-2023<br>02-Dec-2024 |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |
| QA/QC procedures to be applied                                  | Cross check measurement results with records for Electricity Transaction Notes. The calibration of meters was conducted annually subject to technology requirements of “Management Regulations for Power Metered Device Technology” (DL/T448-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                         |  |      |               |                         |         |                         |           |                         |           |                         |           |      |      |                       |          |          |                     |                                                                         |                                                                         |          |                                                                         |                                                                         |

|                     |                                   |
|---------------------|-----------------------------------|
|                     | 2016) <sup>12</sup> .             |
| Purpose of the data | Calculation of baseline emissions |
| Calculation method  | -                                 |
| Comments            | -                                 |

### 4.3 Monitoring Plan

#### 1) Operation and management structure

Overall responsibility for daily monitoring and reporting lies with the project proponent. A monitoring group will be established within the project company to carry out the monitoring work. The structure of the monitoring group is as follows:

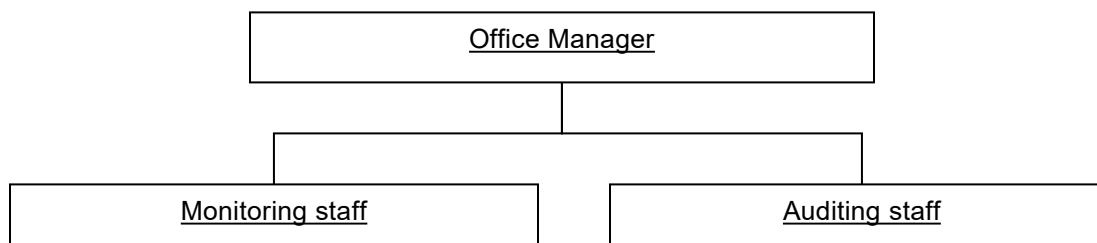


**Figure 4-1 Organization structure of the monitoring team**

The responsibilities of each role in the team structure are:

- Office manager has the overall management responsibility, especially supervising the implementation of the monitoring plan
- Monitoring staff measures the electricity imported to and exported from the project
- Auditing staff performs internal verification of the measurement, collects relevant ETN and calculates emission reductions

Finally, the monitoring reports will be reviewed by the General Manager.

#### 2) Monitoring equipment and installation

The project is connected to the Beitan 110kV Substation through a 110kV transmission line. And two bi-directional meters M1 and M1' have been installed in the Beitan substation to measure the electricity delivered to the grid by the project ( $EG_{out,y}$ ) and the electricity consumed by the project which is imported from the grid ( $EG_{in,y}$ ). The readings from main meter M1 will be used for ER calculation, and when M1 is out of order, the readings from the back-up meter M1' shall be used for reference. The main meter and back-up meter is owned, operated and

<sup>12</sup> <https://ebook.chinabuilding.com.cn/zbooklib/bookpdf/probation?SiteID=1&bookID=110000>

maintained by the grid company. The total electricity delivered to the grid by the project:  
 $EG_{\text{facility},y} = EG_{\text{out},y} - EG_{\text{in},y}$

The meters were configured to meet the technology requirements of “Management Regulations for Power Metered Device Technology” (DL/T448-2016) and the subsequent industrial standards. These meters installed for power measurement should reach 0.5 or above in accuracy degree. And before the electric energy metering equipment was put into operation, the project proponent and power grid company have checked and accepted the equipment according to the regulation. During this monitoring period, the cut-off time of meter reading for  $EG_{\text{out},y}$  and  $EG_{\text{in},y}$  with the power company is at 24:00 of the last day every month. The power line diagram of the project is shown as follows:

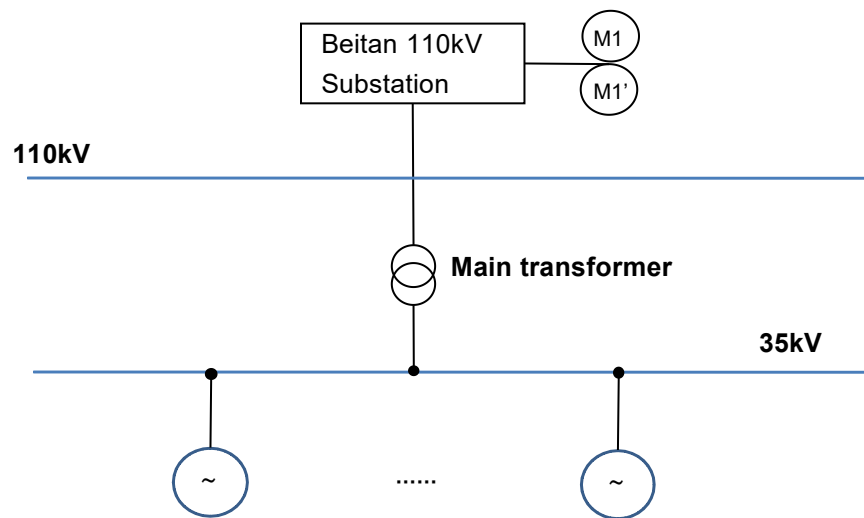


**Figure 4–2 Power line diagram of the monitoring system**

### 3) Data collection system

The procedures of data recording and collecting are listed below:

- The project proponent reads the main meter (M1) every month and then submits the reading results to the grid company. Upon agreement on the electricity reading from both parties, the power grid pays the project proponent for exported electricity and the project proponent provides the grid company with an Electricity Transaction Note (ETN).
- The project proponent files the meter readings in the monthly report, a data collection form designed for monitoring. The data on this monthly report which can be cross-checked with the ETN are used to calculate emission reductions.
- The project proponent collects and keeps on file maintenance records, meter calibration documents.

#### 4) Quality assurance and quality control (QA/QC)

QA/QC practice involves:

- The metering equipment will be calibrated and checked annually for accuracy;
- Calibration will be carried out by qualified parties with the records being supplied to the project proponent, and the calibration shall ensure sufficient accuracy so that any error resulting from such equipment shall not exceed the allowable error of full-scale rating.
- When M1 is out of work, M1' will be used for measurement, and no emission reduction will be claimed when both M1 and M1' are out of work.
- All data collected as part of monitoring is archived electronically. All information should be stored by the technology department of the project proponent and all the material has a physical copy for backup. In order to facilitate auditors' reference of relevant literature relating to the project, the project material and monitoring results are indexed. And all data including calibration records is kept until 2 years after the end of the crediting period, or the last issuance of VCUs, whichever is later.

## 5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

### 5.1 Baseline Emissions

According to ACM0002 and the registered VCS PD of the Project, the baseline emission  $BE_y$  during the monitoring period results from:

$$BE_y = EG_{PJ,y} \cdot EF_{grid,CM,y} \quad (1)$$

Where:

$BE_y$  = Baseline emission in year y (tCO<sub>2</sub>e)

$EG_{PJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM-project activity in year y (MWh/yr)

$EF_{grid,CM,y}$  = Combined margin CO<sub>2</sub> emission factor for grid connected power generation in year y calculated using TOOL07 (tCO<sub>2</sub>e/MWh)

And for greenfield power plant,

$$EG_{PJ,y} = EG_{facility,y} = EG_{out,y} - EG_{in,y} \quad (2)$$

Where:

- $EG_{PJ,y}$  = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr)
- $EG_{facility,y}$  = Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh/yr)
- $EG_{out,y}$  = Quantity of the electricity delivered to the grid by the project in year y (MWh/yr)
- $EG_{in,y}$  = Quantity of the electricity consumed by the project which is imported from the grid in year y (MWh/yr)

The monthly electricity data and baseline emission are listed in the table 5-1.

**Table 5-1 The monthly electricity data for  $EG_{out,y}$  and  $EG_{in,y}$** 

| Monitoring period       | $EG_{out,y}$ (MWh) |           |                      | $EG_{in,y}$ (MWh) |          |                      | $EG_{facility,y}$ (MWh) |
|-------------------------|--------------------|-----------|----------------------|-------------------|----------|----------------------|-------------------------|
|                         | Monthly reports    | ETN Data  | Data for Calculation | Monthly reports   | ETN Data | Data for Calculation |                         |
|                         | A                  | B         | $C=\min(A,B)$        | D                 | E        | $F=\max(D,E)$        |                         |
| 01-Nov-2020~30-Nov-2020 | 5,849.779          | 5,849.779 | 5,849.779            | 129.360           | 129.360  | 129.360              | 5,720.419               |
| 01-Dec-2020~31-Dec-2020 | 5,750.080          | 5,750.080 | 5,750.080            | 146.520           | 146.520  | 146.520              | 5,603.560               |
| 01-Jan-2021~31-Jan-2021 | 5,903.711          | 5,903.711 | 5,903.711            | 104.280           | 104.280  | 104.280              | 5,799.431               |
| 01-Feb-2021~28-Feb-2021 | 6,119.906          | 6,119.906 | 6,119.906            | 109.560           | 109.560  | 109.560              | 6,010.346               |
| 01-Mar-2021~31-Mar-2021 | 6,417.144          | 6,417.144 | 6,417.144            | 108.240           | 108.240  | 108.240              | 6,308.904               |
| 01-Apr-2021~30-Apr-2021 | 6,405.846          | 6,405.846 | 6,405.846            | 99.000            | 99.000   | 99.000               | 6,306.846               |
| 01-May-2021~31-May-2021 | 7,684.769          | 7,684.769 | 7,684.769            | 64.680            | 64.680   | 64.680               | 7,620.089               |
| 01-Jun-2021~30-Jun-2021 | 6,423.422          | 6,423.422 | 6,423.422            | 71.280            | 71.280   | 71.280               | 6,352.142               |
| 01-Jul-2021~31-Jul-2021 | 7,587.013          | 7,587.013 | 7,587.013            | 75.240            | 75.240   | 75.240               | 7,511.773               |

| Monitoring period       | EG <sub>out,y</sub> (MWh) |           |                      | EG <sub>in,y</sub> (MWh) |          |                      | EG <sub>facility,y</sub> (MWh) |
|-------------------------|---------------------------|-----------|----------------------|--------------------------|----------|----------------------|--------------------------------|
|                         | Monthly reports           | ETN Data  | Data for Calculation | Monthly reports          | ETN Data | Data for Calculation |                                |
|                         | A                         | B         | C=min(A,B)           | D                        | E        | F=max(D,E)           |                                |
| 01-Aug-2021~31-Aug-2021 | 7,033.451                 | 7,033.451 | 7,033.451            | 80.520                   | 80.520   | 80.520               | 6,952.931                      |
| 01-Sep-2021~30-Sep-2021 | 7,187.629                 | 7,187.629 | 7,187.629            | 87.120                   | 87.120   | 87.120               | 7,100.509                      |
| 01-Oct-2021~31-Oct-2021 | 6,189.570                 | 6,189.570 | 6,189.570            | 102.960                  | 102.960  | 102.960              | 6,086.610                      |
| 01-Nov-2021~30-Nov-2021 | 6,911.650                 | 6,911.650 | 6,911.650            | 112.200                  | 112.200  | 112.200              | 6,799.450                      |
| 01-Dec-2021~31-Dec-2021 | 6,816.277                 | 6,816.277 | 6,816.277            | 126.720                  | 126.720  | 126.720              | 6,689.557                      |
| 01-Jan-2022~31-Jan-2022 | 6,697.038                 | 6,697.038 | 6,697.038            | 121.440                  | 121.44   | 121.440              | 6,575.598                      |
| 01-Feb-2022~28-Feb-2022 | 6,761.128                 | 6,761.128 | 6,761.128            | 104.280                  | 104.28   | 104.280              | 6,656.848                      |
| 01-Mar-2022~31-Mar-2022 | 7,731.770                 | 7,731.770 | 7,731.770            | 99.000                   | 99       | 99.000               | 7,632.770                      |
| 01-Apr-2022~30-Apr-2022 | 7,515.799                 | 7,515.799 | 7,515.799            | 83.160                   | 83.16    | 83.160               | 7,432.639                      |
| 01-May-2022~31-May-2022 | 7,718.982                 | 7,718.982 | 7,718.982            | 75.240                   | 75.24    | 75.240               | 7,643.742                      |

| Monitoring period       | EG <sub>out,y</sub> (MWh) |           |                      | EG <sub>in,y</sub> (MWh) |          |                      | EG <sub>facility,y</sub> (MWh) |
|-------------------------|---------------------------|-----------|----------------------|--------------------------|----------|----------------------|--------------------------------|
|                         | Monthly reports           | ETN Data  | Data for Calculation | Monthly reports          | ETN Data | Data for Calculation |                                |
|                         | A                         | B         | C=min(A,B)           | D                        | E        | F=max(D,E)           |                                |
| 01-Jnu-2022~30-Jun-2022 | 6,999.894                 | 6,999.894 | 6,999.894            | 80.520                   | 80.52    | 80.520               | 6,919.374                      |
| 01-Jul-2022~31-Jul-2022 | 6,640.525                 | 6,640.525 | 6,640.525            | 85.800                   | 85.8     | 85.800               | 6,554.725                      |
| 01-Aug-2022~31-Aug-2022 | 4,977.573                 | 4,977.573 | 4,977.573            | 95.040                   | 95.04    | 95.040               | 4,882.533                      |
| 01-Sep-2022~30-Sep-2022 | 7,092.074                 | 7,092.074 | 7,092.074            | 85.800                   | 85.800   | 85.800               | 7,006.274                      |
| 01-Oct-2022~31-Oct-2022 | 7,530.386                 | 7,530.386 | 7,530.386            | 99.000                   | 99.000   | 99.000               | 7,431.386                      |
| 01-Nov-2022~30-Nov-2022 | 6,018.472                 | 6,018.472 | 6,018.472            | 122.760                  | 122.760  | 122.760              | 5,895.712                      |
| 01-Dec-2022~31-Dec-2022 | 6,071.072                 | 6,071.072 | 6,071.072            | 141.240                  | 141.240  | 141.240              | 5,929.832                      |
| 01-Jan-2023~31-Jan-2023 | 6,315.676                 | 6,315.676 | 6,315.676            | 138.600                  | 138.600  | 138.600              | 6,177.076                      |
| 01-Feb-2023~28-Feb-2023 | 5,880.209                 | 5,880.209 | 5,880.209            | 118.800                  | 118.800  | 118.800              | 5,761.409                      |
| 01-Mar-2023~31-Mar-2023 | 7,736.757                 | 7,736.757 | 7,736.757            | 114.840                  | 114.840  | 114.840              | 7,621.917                      |

| Monitoring period       | EG <sub>out,y</sub> (MWh) |                    |                      | EG <sub>in,y</sub> (MWh) |                  |                      | EG <sub>facility,y</sub> (MWh) |
|-------------------------|---------------------------|--------------------|----------------------|--------------------------|------------------|----------------------|--------------------------------|
|                         | Monthly reports           | ETN Data           | Data for Calculation | Monthly reports          | ETN Data         | Data for Calculation |                                |
|                         | A                         | B                  | C=min(A,B)           | D                        | E                | F=max(D,E)           |                                |
| 01-Apr-2023~30-Apr-2023 | 6,801.260                 | 6,801.260          | 6,801.260            | 100.320                  | 100.320          | 100.320              | 6,700.940                      |
| 01-May-2023~31-May-2023 | 7,050.587                 | 7,050.587          | 7,050.587            | 87.120                   | 87.120           | 87.120               | 6,963.467                      |
| 01-Jnu-2023~30-Jun-2023 | 6,761.890                 | 6,761.890          | 6,761.890            | 72.600                   | 72.600           | 72.600               | 6,689.290                      |
| 01-Jul-2023~31-Jul-2023 | 7,269.841                 | 7,269.841          | 7,269.841            | 71.280                   | 71.280           | 71.280               | 7,198.561                      |
| 01-Aug-2023~31-Aug-2023 | 6,584.643                 | 6,584.643          | 6,584.643            | 77.880                   | 77.880           | 77.880               | 6,506.763                      |
| 01-Sep-2023~30-Sep-2023 | 6,938.676                 | 6,938.676          | 6,938.676            | 83.160                   | 83.160           | 83.160               | 6,855.516                      |
| 01-Oct-2023~31-Oct-2023 | 6,596.751                 | 6,596.751          | 6,596.751            | 100.320                  | 100.320          | 100.320              | 6,496.431                      |
| 01-Nov-2023~30-Nov-2023 | 5,963.923                 | 5,963.923          | 5,963.923            | 116.160                  | 116.160          | 116.160              | 5,847.763                      |
| 01-Dec-2023~27-Dec-2023 | 5,024.497                 | 5,024.497          | 5,024.497            | 118.417                  | 118.417          | 118.417              | 4,906.080                      |
| <b>Total</b>            | <b>252,959.670</b>        | <b>252,959.670</b> | <b>252,959.670</b>   | <b>3,810.457</b>         | <b>3,810.457</b> | <b>3,810.457</b>     | <b>249,149.213</b>             |

Note: Readings of  $EG_{out,y}$  and  $EG_{in,y}$  during the period of 01-Dec-2023~27-Dec-2023 are sourced from the daily reading records and evidenced by the Electricity confirmation letter issued by the grid company.

**Table 5-2 Calculation of the baseline emission**

| Monitoring period       | $EG_{\text{facility},y}(\text{MWh})$ | $EF_{\text{grid},CM,y}$ | $BEy(\text{tCO}_2)$ |
|-------------------------|--------------------------------------|-------------------------|---------------------|
| 01-Nov-2020-31-Dec-2020 | 11,323.979                           | 0.8568                  | 9,702               |
| 01-Jan-2021-31-Dec-2021 | 79,538.588                           | 0.8568                  | 68,148              |
| 01-Jan-2022-31-Dec-2022 | 80,561.433                           | 0.8568                  | 69,025              |
| 01-Jan-2023-27-Dec-2023 | 77,725.213                           | 0.8568                  | 66,594              |
| <b>Total</b>            | <b>249,149.213</b>                   | <b>0.8568</b>           | <b>213,469</b>      |

## 5.2 Project Emissions

As per the registered VCS PD, the Project emission (PEy) is 0 tCO<sub>2</sub> e.

## 5.3 Leakage Emissions

No leakage emissions are considered as per the applied methodology ACM0002 and the registered VCS PD.

## 5.4 GHG Emission Reductions and Carbon Dioxide Removals

| Vintage period             | Baseline emissions (tCO <sub>2</sub> e) | Project emissions (tCO <sub>2</sub> e) | Leakage emissions (tCO <sub>2</sub> e) | Reduction VCU (tCO <sub>2</sub> e) | Removal VCU (tCO <sub>2</sub> e) | Total VCU (tCO <sub>2</sub> e) |
|----------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|------------------------------------|----------------------------------|--------------------------------|
| 01-Nov-2020-31 to Dec-2020 | 9,702                                   | 0                                      | 0                                      | 9,702                              | 0                                | 9,702                          |
| 01-Jan-2021-31 to Dec-2021 | 68,148                                  | 0                                      | 0                                      | 68,148                             | 0                                | 68,148                         |
| 01-Jan-2022 to 31-Dec-2022 | 69,025                                  | 0                                      | 0                                      | 69,025                             | 0                                | 69,025                         |
| 01-Jan-2023 to 27-Dec-2023 | 66,594                                  | 0                                      | 0                                      | 66,594                             | 0                                | 66,594                         |
| <b>Total</b>               | <b>213,469</b>                          | <b>0</b>                               | <b>0</b>                               | <b>213,469</b>                     | <b>0</b>                         | <b>213,469</b>                 |

| Vintage period             | Ex-ante estimated reductions/removals | Achieved reductions/removals | Percent difference | Explanation for the difference                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|---------------------------------------|------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | A                                     | B                            | =(B-A)/A           |                                                                                                                                                                                                                                                                                                                                                                          |
| 01-Nov-2020-31 to Dec-2020 | 10,596                                | 9,702                        | -8.44%             | Solar radiation is poor in November and December, resulting in less electricity generation. The ex-ante estimated reductions were based on the average of the number of days of power generation. Therefore, the estimated value is greater than the actual power generation                                                                                             |
| 01-Jan-2021-31 to Dec-2021 | 62,863                                | 68,148                       | 8.41%              | Due to PD's prediction of power generation, it was estimated that the average operating hours over 25 years would be 1,412 hours. However, the operating hours of the photovoltaic power station in Shandan County can generally reach 1,590 hours due to more abundant sunshine duration this year, resulting in the actual value being higher than the predicted value |
| 01-Jan-2022 to 31-Dec-2022 | 62,326                                | 69,025                       | 10.75%             | Due to PD's prediction of power generation, it was estimated that the average operating hours over 25 years would be 1,412 hours. However, the operating hours of the photovoltaic power station in Shandan County can generally reach 1,611 hours due to more abundant sunshine duration this year, resulting in the actual value being higher than the predicted value |
| 01-Jan-2023 to 27-Dec-2023 | 60,944                                | 66,594                       | 9.27%              | Due to PD's prediction of power generation, it was estimated that the average operating hours over 25 years would be 1,412 hours. However, the operating hours of the photovoltaic power station in                                                                                                                                                                      |

|              |                |                |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|----------------|----------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |                |                |              | Shandan County can generally reach 1,578 hours due to more abundant sunshine duration this year, resulting in the actual value being higher than the predicted value                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Total</b> | <b>196,729</b> | <b>213,469</b> | <b>8.51%</b> | <p>Refer to the above explanation</p> <p>The emission reductions achieved in the 3rd monitoring period are about 8.50%, which is in the normal fluctuation range and has no impact on the additionality of the project.</p> <p>Taking the first monitoring period from 28-Dec-2013 to 27-Oct-2019 and second monitoring period into account, the whole emission reductions from 28-Dec-2013 to 27-Dec-2023 (covering 3,652 days) are 581,137 tCO<sub>2</sub>e<sup>13</sup>, which is 9.47% less than the estimated emission reductions 641,952 tCO<sub>2</sub>e. Thus, there is no impact on the additionality of the project.</p> |

<sup>13</sup> The achieved reductions of the project were 299,774 tCO<sub>2</sub>e in the first monitoring period (28-Dec-2013 to 27-Oct-2019) and 67,894 tCO<sub>2</sub>e in the second monitoring period (28-Dec-2019 to 31-Oct-2020). The total achieved reductions of the three monitoring periods were 581,122 tCO<sub>2</sub>e.

# APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Not applicable.

## APPENDIX 2: SDG MONITORING RESULTS

### SDG 7

The grid-in electricity achieved by this project is 249,149.213 MWh in third monitoring period (01-Nov-2020 to 27-Dec-2023). The Electricity Transaction Note and electricity monthly report have been used as evidence of power generation, which improves the fossil fuel-based fuel structure in the power grid by providing clean and renewable energy and contributing to energy supply security. Please see Table 5.1 for the details.

### SDG 8

The construction and operation of the project provided 16 (15 man and 1 women) employment positions for local people, which will have a positive effect on the local economy. The special employee Information are listed as follows:

Employee List of Shandan Xiehe Solar Power Generation Co., Ltd

| No. | Chinese name | Name          | Gender |
|-----|--------------|---------------|--------|
| 1   | 曾多玉          | Zeng Duoyu    | male   |
| 2   | 李玉亮          | Li Yuliang    | male   |
| 3   | 庄辉           | Zhuang Hui    | male   |
| 4   | 刘虎           | Liu Hu        | male   |
| 5   | 王成才          | Wang Chengcai | male   |
| 6   | 邹保利          | Zou Baoli     | male   |
| 7   | 甘静林          | Gan Jinglin   | male   |

| No. | Chinese name | Name           | Gender |
|-----|--------------|----------------|--------|
| 8   | 苗小亮          | Miao Xiaoliang | male   |
| 9   | 韩兆君          | Han Zhaojun    | female |
| 10  | 张海山          | Zhang Haishan  | male   |
| 11  | 王新荣          | Wang Xinrong   | male   |
| 12  | 张刚           | Zhang Gang     | male   |
| 13  | 彭佛廷          | Peng Foting    | male   |
| 14  | 闻鹏清          | Wen Pengqin    | male   |
| 15  | 吴桐           | Wu Tong        | male   |
| 16  | 刘兴旺          | Liu Xinwang    | male   |

### SDG 13

The Project has prevented the release of 213,469 tons of carbon into the atmosphere during the third monitoring period (01-Nov-2020 to 27-Dec-2023). Please see section 5.4 for the details.