



**Verified Carbon  
Standard**

## GUIZHOU PANJIANG LOW CONCENTRATION COAL MINE METHANE POWER GENERATION PROJECT PHASE 2



**ClimateBridge**

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|                      |                                                                                                                                                                                                                                                                                                                             |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Project Title</b> | Guizhou Panjiang Low Concentration Coal Mine Methane Power Generation Project Phase 2                                                                                                                                                                                                                                       |
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# 1 PROJECT DETAILS

## 1.1 Summary Description of the Project

Guizhou Panjiang Low Concentration Coal Mine Methane Power Generation Project Phase 2 (hereinafter referred to as the Project) will utilize the low concentration coal mine methane (CMM) from Panjiang coal mine for power generation to supply electricity to the coal mines where the Project is located. The Project is located in Pan County, Liu Panshui City, Guizhou Province, China. The Project includes three coalmines (Yueliangtian, Jinjia, Xiangshui) with five mining areas (Nansan, Jinyi, Jin'er, Hexi, Botu), with total methane resource of 52.51 billion m<sup>3</sup> and extractable methane of 31.83 billion m<sup>3</sup><sup>1</sup>.

Prior to the implementation of the project, all three coal mines were equipped with CMM extraction facilities and all extracted CMM was vented into the atmosphere directly; the electricity consumed at coal mines was supplied by two captive power plants<sup>2</sup> and imported from China Southern Power Grid (CSPG) through the electricity distribution network in Panjiang coal mine area; the heat was provided by waste coal boilers. For CMM treatment and heat supply, baseline scenario is the same as the scenario existing prior to the implementation of the project activity. For electricity supply, the CSPG provides the equivalent amount of electricity produced by the Project in the baseline.

The purpose of the Project is to utilize the extracted CMM with methane concentration of 6-30% to produce electricity. No coal bed methane (CBM) or ventilation air methane (VAM) utilization is involved. Thirty CMM power generation units will be installed with a total installed capacity of 17.7MW, destroying 25.22 million m<sup>3</sup> of methane annually<sup>3</sup>. After the full operation of the Project, the annual exported electricity will be 78,163 MWh, which will be supplied to the coalmines through the electricity distribution network in Panjiang coal mine area, replacing the electricity that would otherwise have been purchased from the CSPG. The waste heat from the generators will be recovered by waste heat boilers to provide free hot water to the coal mines, which was provided by waste coal fired boilers before the implementation of the Project. However, to be conservative, emission reductions will not be claimed for this part.

The expected total emission reduction of the Project in the crediting periods of 10 years is 4,199,250 tCO<sub>2</sub>e, and the annual emission reduction is estimated to be 419,925 tCO<sub>2</sub>e.

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<sup>1</sup> Feasibility Study Report (FSR)

<sup>2</sup> Page 72 of the FSR, the capacity of the two captive power plants are 30MW (Laowuji, operated since 1994) and 35MW (Huopu, operated since 2002) respectively

<sup>3</sup> Calculated according to FSR,  $MD_{ELEC,y} = MM_{ELEC,y} \times Eff_{ELEC}$ , where  $MM_{ELEC,y} = 25.35$  million m<sup>3</sup>,  $Eff_{ELEC} = 0.995$  (IPCC 1996)

## 1.2 Sectoral Scope and Project Type

Sectoral Scope 08: Mining/mineral production, and

Sectoral Scope 10: Fugitive emissions from fuels (solid, oil and gas)

The project is not a grouped project.

## 1.3 Project Eligibility

The project is not a grouped project.

## 1.4 Project Design

NA.

## 1.5 Project Proponent

|                   |                                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------|
| Organization name | Guizhou Panjiang CBM Development & Utilization Co., Ltd.                                        |
| Contact person    | Yang Shiliang                                                                                   |
| Title             | General Manager                                                                                 |
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## 1.6 Other Entities Involved in the Project

|                     |                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------|
| Organization name   | Climate Bridge Ltd.                                                                          |
| Role in the project | VCU buyer                                                                                    |
| Contact person      | Gao Zhiwen                                                                                   |
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## 1.7 Ownership

The approval of Environmental Impact Assessment (EIA), Feasibility Study Report (FSR), and Letter of Approval for the Project as a CDM Project issued by China National Development and Reform Commission, and the business license of the project owner are evidences for legislative right. Besides, the purchasing contract of generators, and the purchasing power agreement are the evidences for the ownership of the plant, equipment and power generating.

## 1.8 Project Start Date

01-April-2011 (*operation start date*).

## 1.9 Project Crediting Period

The crediting period under CDM started on 05-December-2012 and expired on 04-December-2022.

The crediting period under CCER started on 01-April-2011 and expired on 04-December-2022.

The VCS crediting period of the Project is from 01-April-2011 to 31-March-2021 (both days included) totally 10 years.

## 1.10 Project Scale and Estimated GHG Emission Reductions or Removals

| Project Scale |   |
|---------------|---|
| Project       |   |
| Large project | ✓ |

| Year                                | Estimated GHG emission reductions or removals (tCO <sub>2</sub> e) |
|-------------------------------------|--------------------------------------------------------------------|
| 01-April-2011 to 31-December-2011   | 274,381                                                            |
| 01-January-2012 to 31-December-2012 | 364,179                                                            |
| 01-January-2013 to 31-December-2013 | 431,778                                                            |
| 01-January-2014 to 31-December-2014 | 431,778                                                            |
| 01-January-2015 to 31-December-2015 | 431,778                                                            |
| 01-January-2016 to 31-December-2016 | 431,778                                                            |
| 01-January-2017 to 31-December-2017 | 431,778                                                            |

|                                        |                  |
|----------------------------------------|------------------|
| 01-January-2018 to 31-December-2018    | 431,778          |
| 01-January-2019 to 31-December-2019    | 431,778          |
| 01-January-2020 to 31-December-2020    | 431,778          |
| 01-January -2021 to 31-March-2021      | 106,466          |
| <b>Total estimated ERs</b>             | <b>4,199,250</b> |
| <b>Total number of crediting years</b> | <b>10</b>        |
| <b>Average annual ERs</b>              | <b>419,925</b>   |

The estimated emission annual reductions in the VCS PD are different from the estimated ERs in the CDM PDD. The reason is that the different values of  $GWP_{CH_4}$  (21  $tCO_2/tCH_4$  before 2013 and 25  $tCO_2/tCH_4$  after 2013) are taken into account in this VCS PD, while the CDM PDD takes the fixed value of 21  $tCO_2/tCH_4$ .

## 1.11 Description of the Project Activity

Please refer to section A.1 of the CDM PDD (version 06).

## 1.12 Project Location

The Project is located in Dashan Town, Xiangshui Town, Hongguo Town, Panjiang Town, Pan County, Liupanshui City, Guizhou Province, People's Republic of China. The geographic coordinates of the Project site are shown as follows:

**Table 1-1 Geographic coordinates of the coal mines involved in the project**

| Coal mine    | Power station | Decimal Longitude | Decimal Latitude |
|--------------|---------------|-------------------|------------------|
| Jinjia       | Jinyi         | 104.5295E         | 25.6857N         |
|              | Jin'er        | 104.5428E         | 25.7003N         |
| Yueliangtian | Nansan        | 104.5123E         | 25.9099N         |
| Xiangshui    | Botu          | 104.5993E         | 25.4693N         |
|              | Hexi          | 104.5835E         | 25.4634N         |

The geographic locations of the involved coal mines are shown in Figure 1-1.



Figure 1-1 Location of the project

### 1.13 Conditions Prior to Project Initiation

The scenario existing prior to the start of the implementation of the project activity is:

1) all the low concentration CMM extracted from the coal mines in the Project would be vented into the atmosphere; 2) the CSPG provided the equivalent amount of electricity produced by the Project (as discussed above, the electricity generated by the Project will only replace electricity from CSPG) and 3) heat was provided by waste coal boilers (emission reductions due to heat replacement will not be claimed) .

For CMM treatment and heat supply, baseline scenario is the same as the scenario existing prior to the implementation of the project activity. For electricity supply, the CSPG provides the equivalent amount of electricity produced by the Project in the baseline.

### 1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

The project is in the field of Mining/mineral production and meets the relevant provisions of the Chinese National Coalmine Safety Regulation. The generation of power from CSPG will meet the requirement of national laws and regulations, also financially viable.

## 1.15 Participation under Other GHG Programs

### 1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The project has been registered as a CDM project in UNFCCC on 05-December-2012 (UNFCCC Ref. 6948). The crediting period started on 05-December-2012 and expired on 04-December-2022. Please refer to the following link for details: <https://cdm.unfccc.int/Projects/DB/RINA1344437738.67/view>

The project has been registered as a CCER project on 26-May-2014 (Ref. 011). The crediting period started on 01-April-2011 and expired on 04-December-2022.

Except for CDM and CCER, the project did not register under any other GHG program.

### 1.15.2 Projects Rejected by Other GHG Programs

NA.

## 1.16 Other Forms of Credit

### 1.16.1 Emissions Trading Programs and Other Binding Limits

The GHG emission reductions of 346,403 tCO<sub>2</sub> generated from 01-April-2011 to 04-December-2012 by the project has been issued as CCER used for Chinese allowance trading, while 1,532,606 tCO<sub>2</sub> in the period of 05-December-2012 to 25-February-2018 issued as a CER.

The GHG emission reductions generated by the project from 26-February-2018 will not be used for compliance with emission trading programs or to meet binding limits on GHG emissions.

All credits from 26-February-2018 will be claimed under VCS program as VCUs for the project to avoid double counting.

### 1.16.2 Other Forms of Environmental Credit

The project hasn't sought or received another form of environmental credits.

## 1.17 Additional Information Relevant to the Project

### Leakage Management

NA.

### Commercially Sensitive Information

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

### Sustainable Development

The Project will contribute to sustainable development in the following ways:

- Achieving significant GHG emission reductions and other air pollutant reductions by methane destruction;
- Displacing part of the grid electricity mainly generated by fossil fuel combustion, thus reducing the emission of CO<sub>2</sub> and other air pollutants;
- Creating new job opportunities.

### Further Information

NA.

## 2 SAFEGUARDS

### 2.1 No Net Harm

NA.

### 2.2 Local Stakeholder Consultation

NA.

### 2.3 Environmental Impact

NA.

### 2.4 Public Comments

NA.

### 2.5 AFOLU-Specific Safeguards

NA.

## 3 APPLICATION OF METHODOLOGY

### 3.1 Title and Reference of Methodology

NA.

### 3.2 Applicability of Methodology

NA.

### 3.3 Project Boundary

NA.

### 3.4 Baseline Scenario

NA.

### 3.5 Additionality

NA.

### 3.6 Methodology Deviations

There is no methodology deviations for the project.

## 4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

### 4.1 Baseline Emissions

NA.

### 4.2 Project Emissions

NA.

### 4.3 Leakage

NA.

#### 4.4 Net GHG Emission Reductions and Removals

NA.

## 5 MONITORING

#### 5.1 Data and Parameters Available at Validation

NA.

#### 5.2 Data and Parameters Monitored

NA.

#### 5.3 Monitoring Plan

NA.