

MADUSHAN HYDROPOWER PROJECT ON HONGHE RIVER IN YUNNAN PROVINCE, CHINA

Document Prepared By Guizhou Phenix Low Carbon Consulting Co., Ltd

Project Title	Madushan Hydro Power Project on Honghe River in Yunnan Province, China
Version	<i>Version 01</i>
Date of Issue	<i>22-05-2012</i>
Prepared By	<i>Guizhou Phenix Low Carbon Consulting Co., Ltd</i>
Contact	<i>Address: Room 502, Jiefangxi Road, Nanming District, Guiyang City, Guizhou Province, P.R. of China (550001)</i> <i>Telephone +86 851 5944191</i> <i>Email: kevin_phenix@163.com email, website</i>

Table of Contents

1	Project Details	3
1.2	Sectoral Scope and Project Type	3
1.3	Project Proponent	3
1.5	Project Start Date	3
1.6	Project Crediting Period	3
1.7	Project Scale and Estimated GHG Emission Reductions or Removals	4
1.9	Project Location	4
1.10	Conditions Prior to Project Initiation	5
1.12	Ownership and Other Programs	5
1.12.1	Proof of Title	5
1.12.2	Emissions Trading Programs and Other Binding Limits.....	5
1.12.3	Participation under Other GHG Programs.....	5
1.12.4	Other Forms of Environmental Credit.....	5
1.13	Additional Information Relevant to the Project.....	6

1 PROJECT DETAILS

1.2 Sectoral Scope and Project Type

According to the CDM-AP adopted list of sectoral scopes, which is based on the list of sectors and sources contained in Annex A of the Kyoto Protocol, the project falls into Sectoral scope 1 Energy industries (Renewable sources).

The Project is not a Grouped project.

1.3 Project Proponent

The Project proponent is Honghe Guangyuan Madushan Hydropower Development Co.,Ltd

Organization:	Honghe Guangyuan Madushan Hydropower Development Co.,Ltd
Street/P.O.Box:	781 Building Hongzhuyuan
City:	Mengzi County
State/Region:	Yunnan Province
Country:	People's Republic of China
Represented by:	Wang Hualin
Telephone:	+86-873-3743179
FAX:	+86-873-3733698
E-mail:	whualing0312@163.com

1.5 Project Start Date

The first set of water turbine and generator unit started commissioning on 28/02/2011, the second on 29/06/2011, and the third on 27/07/2011.

1.6 Project Crediting Period

Project start date:28/02/2011 on which the project activity began reducing or removing GHG emission.

To regard as a CDM project, Crediting period start date:07/06/2011 on which the first monitoring period commenced.

7×3 years was selected as the crediting period of the Project. That is, the length of the first crediting period is 7 years which will be renewed two times.

1.7 Project Scale and Estimated GHG Emission Reductions or Removals

The total installed capacity of the Project is 288MW, and the annual emission reduction less than 100,000,000tCO₂e, so it falls into the project.

It is expected that the project activities will generate emission reductions for about 6,346,590 tCO₂e over the first 7-year renewable crediting period from 01/07/2011 to 30/06/2018.

Years	Estimated GHG emission reductions or removals (tCO ₂ e)
01/07/2011-31/12/2011	236,645 ¹
01/01/2012-31/12/2012	917,369 ²
01/01/2013-31/12/2013	917,369
01/01/2014-31/12/2014	917,369
01/01/2015-31/12/2015	959,382 ³
01/01/2016-31/12/2016	959,382
01/01/2017-31/12/2017	959,382
01/01/2018-30/06/2018	479,691 ⁴
Total estimated ERs	6,346,590
Total number of crediting years	7
Average annual ERs	906,656

1.9 Project Location

The proposed project is located on Honghe River in Honghe Hani and Yi Autonomous State, Yunnan Province. It is about 75km away from Gejiu City, about 59km away from Yuanyang County, and about 86km away from Mengzi County. The geographical coordinates of the dam are east longitude of 103°16'58.5" and north latitude of 23°02'43.9", and the geographical coordinates of the power house are east longitude of 103°17'15" and north latitude of 23°02'39". The detailed project location is shown in The spatial extent of the Project boundary also includes all the power plants physically connected into the SCPG. Due to net electricity imported from SCPG, the SCPG was considered when determining the operating margin emission factor.

¹ There is only part of the turbines and generators start to operate, so the grid-connected electricity of 01/07/2011-31/12/2011 is not the electricity of the whole year, it is 300,330MWh. The emission factor of SCPG approved by China DNA is 0.78795tCO₂e/MWh, so the emission reductions from 01/07/2011-31/12/2011 will be 236,645tCO₂e.

² All the turbines and generators were put into operation, the annual grid-connected electricity from 01/01/2012-31/12/2014 is 1,164,249MWh. The emission factor of SCPG approved by China DNA is 0.78795 tCO₂e/MWh, so the annual emission reductions from 01/01/2012-31/12/2014 will be 917,369tCO₂e.

³ As the hydropower stations in the upstream of the proposed project were start to operation, it is no need for the proposed project to take the function of flood discharge, so the annual grid-connected electricity after the year of 2015 is 1,217,569MWh which is more than before. The emission factor of SCPG approved by China DNA is 0.78795 tCO₂e/MWh, so the annual emission reductions from 01/01/2015-31/12/2017 will be 959,382tCO₂e.

⁴ As the year of 01/01/2018-30/06/2018 is half of the year, so the grid-connected electricity is 608,785MWh which is half of the year. The emission factor of SCPG approved by China DNA is 0.78795 tCO₂e/MWh, so the emission reductions from 01/01/2018-30/06/2018 will be 479,691 tCO₂e.

1.10 Conditions Prior to Project Initiation

As a hydro power project, the project will produce clean electricity using hydro power resources and will generate GHG emission reductions by avoiding CO₂ emission from electricity generation of fossil fuel fired power plants. Operation of the project does not lead to GHG emission. It is confirmed that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction.

1.12 Ownership and Other Programs

1.12.1 Proof of Title

The business license of Honghe Guangyuan Madushan Hydropower Development Co.,Ltd.

The FSR approval letter of the Project

The EIA approval letter of the Project

The equipment contracts of the Project

The construction contracts of the Project.

1.12.2 Emissions Trading Programs and Other Binding Limits

The Project is not included in an emission trading program, and does not take place in a jurisdiction or sector in which binding limits are established on GHG emissions. The Project does not reduce GHG emissions from activities that participate in an emissions trading program, so this clause is not applicable.

The project has been registered as a CDM project on 07/06/2011, for which a renewable crediting period of 3×7 years will be used under the CDM GHG Program. Therefore, CO₂ emission reductions generated by the Project during the CDM crediting period will be verified as unique CERs but not VCUs to avoid double counting. As to the project under VCS only emission reductions achieved from 02/2011 to 06/06/2011 will be considered as VCUs, which will be sold only once to one particular buyer.

1.12.3 Participation under Other GHG Programs

The project has been registered as a CDM project on 07/06/2011 with registration reference number 4476.

1.12.4 Other Forms of Environmental Credit

The Project is a renewable energy generation project, which discharges no emission during operation period. Thus, the project doesn't fall into categories that creating GHG emissions primarily for the purpose of its subsequent removal or destruction.

The Project has not created another form of environmental credit, which will be verified by DOE.
And The Project will not create other environmental credit in the future.

1.13 Additional Information Relevant to the Project

Eligibility Criteria

This project is not a grouped project

Leakage Management

No fossil fuel will be consumed by the Project activity, so no leakage need to be considered in the Project.

Commercially Sensitive Information

There is no any commercially sensitive information involved.

Further Information

As a renewable hydro power project, the proposed project will contribute to the local sustainable development through following aspects:

- The construction and operation of the proposed project will mitigate shortage of electricity supply in local area, increase electricity quality in the power grid, ensure industrial and agricultural production, and satisfy local people with sufficient electricity in daily life;
- The electricity generated by the proposed project will substitute part of electricity in SCPG which is dominated by fossil fuel generated electricity. In addition to GHG emission reductions, the proposed project will help to reduce the emission of other pollutants, such as NO_x, SO₂, Total Suspended Particles, etc.;
- The construction and operation of the proposed project will create more job opportunities for local people. Rural labors could be arranged for on-site construction during the construction period, and long-term job opportunities could be offered during the operation period.