

18 MW KEMPHOLE MINI HYDEL SCHEME (KMHS), BY INTERNATIONAL POWER CORPORATION LIMITED, INDIA



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1 PROJECT DETAILS

1.1 Summary Description of the Project

Kemphole Mini Hydel Scheme (KMHS) is an 18 MW (3 X 6 MW) Run-of-the-River hydro power project located at Kemphole stream in Hassan district of Karnataka in India. The main activity of the project is generation of electricity using hydro potential available in Kemphole stream and exporting the generated power to Karnataka Power Transmission Corporation Ltd. (KPTCL) as per power purchase agreement between two of them.

KMHS project was completed in two stages; in first stage 2X6 MW units were installed (20th Oct 2003, 20th Nov 2003), in second stage 6 MW was installed (10th Jan 2005). The project activity utilises the water flow and fall available in the Kemphole stream. The project location is situated in dense forests of the Kemphole reserve forest and there is no habitation in the nearby area. The project does not involve any displacement of local population and associated rehabilitations. The project uses horizontal Francis turbines for power generation.

Location:

The Run-of-the-River hydro power project located at Kemphole stream in Heggadde village, Sakaleshpura taluk of Hassan district of Karnataka in India.

How the proposed activity reduces GHG emissions

The project generates electrical energy through sustainable means without causing any negative impact on environment. Use of renewable sources for power generation contributes to mitigation of greenhouse gases emissions. Since hydro power is Greenhouse Gas (GHG) emissions free, the power generated will prevent the anthropogenic gas emissions generated by fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas. Hence, the generation by the proposed activity is non-GHG source and thus reduces the proportion of fossil fuel based generation in the grid leading to lesser carbon intensive grid.

Scenario existing prior to the implementation of project activity:

There was no activity at the site prior to implementation of the project activity. Hence the scenario existing prior to the project activity is same as baseline scenario which is continual use of highly carbon intensive electricity in the regional grid.

Baseline Scenario:

As the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following as per applied methodology: Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the "Tool to calculate the emission factor for an electricity system". Hence, pre-project scenario and baseline scenario are the same.

Estimated emission reduction:

The estimation of GHG reductions by this project is limited to carbon dioxide (CO₂) only. Thus the project activity leads to an emission reduction of **445,480 tCO₂** for the chosen crediting period of 10 years renewable with the annual average emission reduction of **44,548 tCO₂e**.

1.2 Sectoral Scope and Project Type

The project activity involves grid connected clean electricity generation by utilizing hydro energy in the state of Karnataka, India. The project total installed capacity is 18 MW (3 x 6 MW).

IPCL supply electricity to the state grid Karnataka Power Transmission Corporation Ltd. (KPTCL) - which is part of Southern Grid of India through a power purchase agreement. Currently the Southern Grid and NEWNE Grid are merged and hence the project is now connected to the Indian National Grid.

Methodology: ACM0002 "Grid-connected electricity generation from renewable sources" (Version 12.0)

Sectoral Scope: 1 – Energy industries (renewable - / non-renewable sources)

The project is not a grouped project.

1.3 Project Proponent

Organization name	International Power Corporation Private Limited
Contact person	B P Ramesh
Title	Director
Address	#19, 3rd floor, Shivashankar Plaza, Lalbagh road Bangalore, Karnataka- 560 027 India
Telephone	+91 80 22100052
Email	bpr@internationalpower.in

1.4 Other Entities Involved in the Project

Organization name	Kosher Climate India Private Limited
Role in the project	Project Consultant
Contact person	Vamsi Krishna M
Title	General Manager
Address	First Floor, #945, 21 st cross, 5 th main Sector- 7, HSR Layout, Bangalore, Karnataka- 560 102 India
Telephone	+91 80 25720814
Email	vamsi@kosherclimate.com

1.5 Project Start Date

20-October-2003 (date of commissioning of first unit)

1.6 Project Crediting Period

Start date of crediting period: 01-December-2014

End date of crediting period: 19-October-2024

Length of crediting period: 9 year 10 month 19 days

Note: Under the CDM 1st crediting period (20/10/2003 to 19/10/2010), CERs are claimed for the complete crediting period. In the 2nd crediting period (20/10/2010 to 19/10/2017), CERs are claimed up to 30/11/2014. Hence, it is proposed to have crediting period for the VCS starting from 01/12/2014 to 19/10/2024 (considering the end date of 3rd crediting period of CDM).

It shall be noted that PP will not claim the VCUs beyond the CDM crediting period as per para 3.8.3 of VCS Standard, version 3.7.

1.7 Project Scale and Estimated GHG Emission Reductions or Removals

Project Scale	
Project	√
Large project	

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
Year 1	44,548
Year 2	44,548
Year 3	44,548
Year 4	44,548
Year 5	44,548
Year 6	44,548
Year 7	44,548
Year 8	44,548
Year 9	44,548
Year 10	44,548
Total estimated ERs	445,480
Total number of crediting years	10
Average annual ERs	44,548

1.8 Description of the Project Activity

Not Applicable

1.9 Project Location

Village: Heggadde

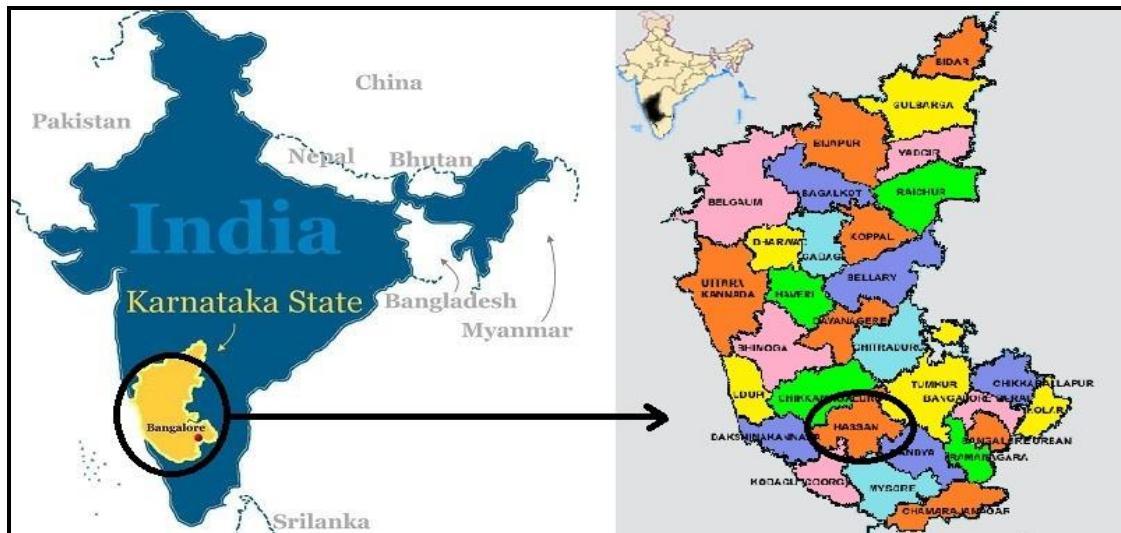
Taluk: Sakaleshpura

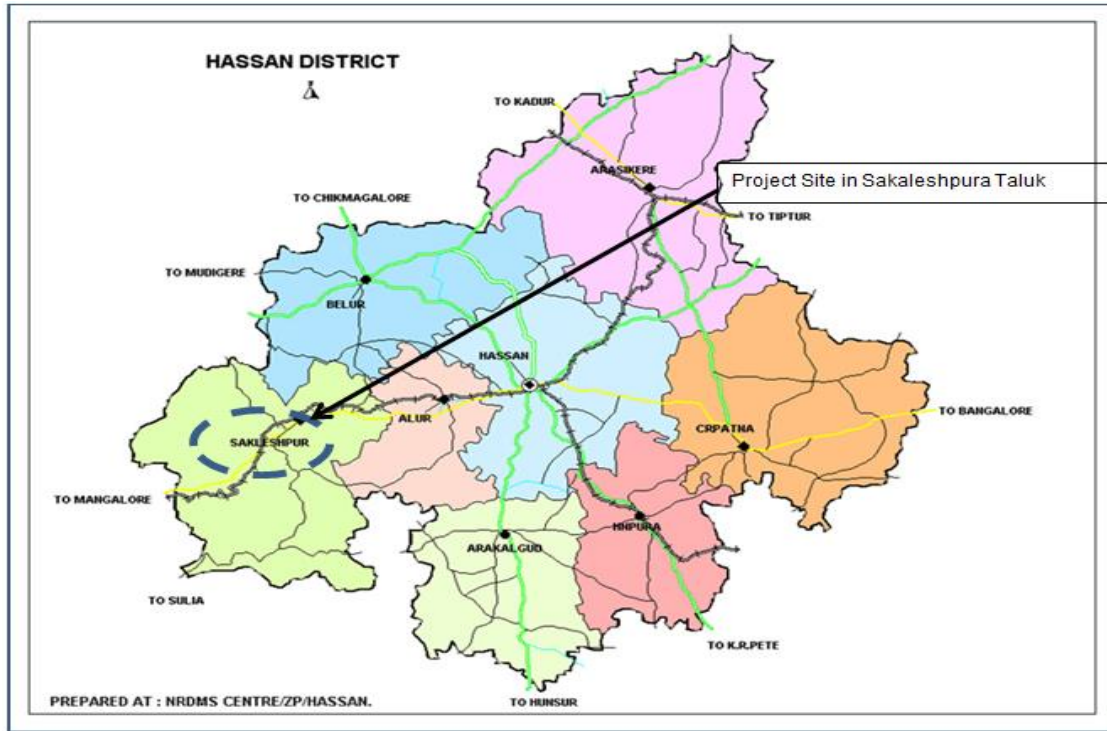
District: Hassan

State: Karnataka

Geographical coordinates of weir site of KMHS project activity is Latitude 12°50'30"N and Longitude 75°40'30"E and of the power house is Latitude 12°50'17.98 "N and Longitude 75°40'11.88"E

Location of project activity is follows:





1.10 Conditions Prior to Project Initiation

This project activity is installed as new hydro power project at site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield plant), as the project activity is a renewable energy project (hydro power project), electricity generated through this project activity does not emit any harmful gases (GHG) into the atmosphere.

1.11 Compliance with Laws, Statutes and Other Regulatory Frameworks

Not Applicable..

1.12 Ownership and Other Programs

1.12.1 Project Ownership

International Power Corporation Limited (IPCL) is the owner of the project. Project ownership shall be confirmed using the following legal documents:

- Power Purchase Agreement
- Commissioning Certificates.

1.12.2 Emissions Trading Programs and Other Binding Limits

Project activity will not be involved in any other emission trading programs or to meet binding limits on GHG emission.

1.12.3 Other Forms of Environmental Credit

The project has not sought or received any other form of Environmental Credit.

1.12.4 Participation under Other GHG Programs

Project got registered under Clean Development Mechanism (CDM) with UNFCCC on 25-May-2006. Project reference number is 0312¹

The project CDM 1st crediting period is from 20-October-2003 to 19-October-2010 and the 2nd crediting period is from 20-October-2010 to 19-October-2017. The CERs are issued up to 30-November- 2014

In VCS, the issuance is requested only from 01-December-2014 and PP will not claim CERs from 01-December-2014. Hence there is no double counting of carbon credits.

1.12.5 Projects Rejected by Other GHG Programs

Not Applicable

1.13 Additional Information Relevant to the Project

Eligibility Criteria

As project activity is not a grouped project activity, the eligibility criteria is not applicable

Leakage Management

According to ACM 0002, the main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, and transport). These emissions sources are neglected. Thus leakage emissions are nil.

Commercially Sensitive Information

No commercially sensitive information has been excluded from the public version of the project description, hence not applicable..

Sustainable Development

The project generates electrical energy through sustainable means without causing any negative impact on environment. Use of renewable sources for power generation contributes to mitigation of greenhouse gases emissions. Apart from the power generation project activity shall also contribute to the following:

- a. Sustainable development through utilization of renewable hydro resources available in the project region.

¹ <https://cdm.unfccc.int/Projects/projsearch.html>

- b. Contribution to power requirements of national grid.
Conserving environment and its natural resources (like coal, petroleum oils etc.) through use of renewable source of energy.

Further Information

Not applicable.

2 APPLICATION OF METHODOLOGY

2.1 Title and Reference of Methodology

Not Applicable

2.2 Applicability of Methodology

Not Applicable

2.3 Project Boundary

Not Applicable

2.4 Baseline Scenario

Not Applicable

2.5 Additionality

Not Applicable

2.6 Methodology Deviations

Not Applicable

3 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

3.1 Baseline Emissions

Not Applicable

3.2 Project Emissions

Not Applicable

3.3 Leakage

Not Applicable

3.4 Net GHG Emission Reductions and Removals

Not Applicable

4 MONITORING**4.1 Data and Parameters Available at Validation**

Not Applicable

4.2 Data and Parameters Monitored

Not Applicable

4.3 Monitoring Plan

Not Applicable

5 SAFEGUARDS**5.1 No Net Harm**

Not Applicable

5.2 Environmental Impact

Not Applicable

5.3 Local Stakeholder Consultation

Not Applicable

5.4 Public Comments

Not Applicable

APPENDIX X: <TITLE OF APPENDIX>

Not Applicable