SECTION A. General description of small-scale project activity

A.1 Title of the small-scale project activity:

KOWEPO Small hydroelectric CDM Project in Taean
22/03/2013
Version 03.0

A.2. Description of the small-scale project activity:

Purpose and technology of the project activity

Carbon dioxide emissions had been increased yearly in Korea and 97% of energy sources are being imported from other countries and also most of them are fossil fuels. Power generation from the fossil fuel based power plants take 62.68% of electricity generation of Korea in 2008 according to KEPCO. (KEPCO: Korea Electric Power Company)[1].Accordingly Korea Government has been concentrating its efforts to reduce GHG emissions and decrease imports of the energy sources from other countries.
Developer of the proposed project is Korea Western Power Co., Ltd. (KOWEPO) which is one of the major electric power companies in Korea. KOWEPO has made efforts to reduce greenhouse gas emissions and developed the renewable energy sources such as Hydro, Solar and Tide etc. And the proposed project is a part of voluntary program of KOWEPO to abate the GHG emissions through establishing a new small hydro power plant using sea water in the Taean thermal power complex site.
KOWEPO has planned to establish small hydro generators that uses sea water as cooling water and returns it into the sea. And the purpose of the project ("KOWEPO Small hydroelectric CDM Project in Taean") is to generate hydroelectric power by using the net head of cooling water drained into the sea.
Therefore the project aims at

- Reducing the greenhouse gas emission by developing renewable energy source
- Developing surplus hydro power energy such as cooling water in thermal power plant.

And the proposed project is expected to contribute to decrease the usage of electricity from the fossil fuel based power plants.

Description of the project & adapted technology

The generating system will be located in Taean Thermal Power Plant Complex site of KOWEPO and the thermal power plant uses sea water as cooling water and discharges it into sea.
The power generators of the small hydro power consist of four(4) sets and each of them has capacity of 550 KW and produce electric power of 7,284 MWh per year. Expected annual emission reductions are estimated at 4,050 tCO_2 for ten(10) years.

Contribution to sustainable development

Currently in Korea, electric power is being supplied through fossil fuels such as coal, diesel oil, heavy oil and natural gas etc, which emit not only the carbon dioxide but also other pollutants like NOx, SOx and

[1] Korea Electric Power Statistics ("KEPCO in brief". Published in May 2009, http://www.kepco.co.kr)

dusts into the air. And the project activity complies with the government policy for greenhouse gas reduction and industry energy curtailment of the country. Thus this project may contribute for sustainable development as follows.

- Generation by hydro power causes many environmental advantages. Compared with electric power by fossil fuel, this project does not discharge other hazardous substances which bring about ground pollution and air pollution.
- It will contribute toward better living circumstances in the country by reducing the air pollution. The power generated with used water will replace the electricity by fossil fuels and be supplied to the grid, so those greenhouse gases, SOx, NOx and other particles aren't be discharged.
- This project activity may contribute to enhance technological development of industry by utilizing waste sea water. Also it will make them get some know-how of engineering design, implementation and acquire driving experiences of the facilities. In addition, it will diversify sources of electricity generation, and be a model that can be applied to other business.

Hydropower is among the cleanest power generation technologies that displace fossil fuel. This project will distribute environmentally sound technologies to other thermal power plants of Korea, as shown the utilization of surplus energy in thermal power plant. It will also promote training and employment of local workers in the operation of these technologies.

A.3. Project participants:

Name of Party involved(*) ((host) indicates a host Party)	Private and/or public entity(ies) project participants (*) (as applicable)	Kindly indicate if the Party involved wish to be considered as project participants (Yes/No)
Rep. of Korea (host)	Korea Western Power Co., Ltd. (KOWEPO)	No

A.4. Technical description of the small-scale project activity:

A.4.1. Location of the small-scale project activity:

A.4.1.1. Host Party(ies):

Republic of Korea

A.4.1.2. Region/State/Province etc.:

Chungcheongnam-do

A.4.1.3. City/Town/Community etc:

831, Banggal-Ri, Wonbuk-Myeon, Taean-Gun

A.4.1.4. Details of physical location, including information allowing the unique identification of this small-scale project activity :