CLEAN DEVELOPMENT MECHANISM
SMALL-SCALE PROGRAM ACTIVITY DESIGN DOCUMENT FORM (CDM-SSC-CPA-DD)
Version 01

CONTENTS

Annexes

NOTE:

(i) This form is for submission of CPAs that apply a small scale approved methodology using the provision of the proposed small scale CDM PoA.

(ii) The coordinating/managing entity shall prepare a CDM Small Scale Programme Activity Design Document (CDM-SSC-CPA-DD)[1,2] that is specified to the proposed PoA by using the provisions stated in the SSC PoA DD. At the time of requesting registration the SSC PoA DD must be accompanied by a CDM-SSC CPA-DD form that has been specified for the proposed SSC PoA, as well as by one completed CDM-SSC CPA-DD (using a real case). After the first CPA, every CPA that is added over time to the SSC PoA must submit a completed CDM-SSC CPA-DD.

[1] The latest version of the template form CDM-CPA-DD is available on the UNFCCC CDM web site in the reference/document section.

[2] At the time of requesting validation/registration, the coordinating managing entity is required to submit a completed CDM-POA-DD, the PoA specific CDM-CPA-DD, as well as one of such CDM-CPA-DD completed (using a real case).

SECTION A. General description of small scale CDM programme activity (CPA)

Note: This template contains text in black and blue ink. The black text cannot be edited by SSC-CPAs, and is common to all SSC-CPAs. Only the blue text shall be edited by implementer(s). Furthermore, only the blue text needs to be checked at the time of a new SSC-CPA inclusion.

A.1. Title of the small-scale CPA:

NuPlanet Small Scale Hydropower PoA – (Insert CPA Number and Name)

Table 1: PoA DD History

Version Number and Date	Details
(Insert version number and date in form DD\MM\YYYY)	(Insert details)

A.2. Description of the small-scale CPA:

CPA (number) is a (insert capacity) MW hydroelectric power installation registered as (insert name). It is situated (insert details). It has a head of (insert number), a design flow of (insert number) cubic metres per second and will use (insert details of technology).

A.3. Entity/individual responsible for the small-scale CPA:

NuPlanet Project Development (Pty) Ltd

A.4. Technical description of the small-scale CPA:

A.4.1. Identification of the small-scale CPA:

A.4.1.1. Host Party:

Republic of South Africa

A.4.1.2. Geographic reference or other means of identification allowing the unique identification of the small-scale CPA (maximum one page):

Located in (insert country name)

(Insert name of property and its location with regard to the nearest town or city)

Latitude (insert co-ordinates)
Longitude (insert co-ordinates)

(Insert map showing location of CPA)

A.4.2. Duration of the small-scale CPA:

A.4.2.1. Starting date of the small-scale CPA:

The expected start date is (insert date), when the (insert details of action that would indicate starting date).

A.4.2.2. Expected operational lifetime of the small-scale CPA:

(insert number) years (insert number) months

A.4.3. Choice of the crediting period and related information:

(Indicate whether it will be a fixed or renewable crediting period)

A.4.3.1. Starting date of the crediting period:

(Indicate starting date of the crediting period in DD\MM\YYYY format)

A.4.3.2. Length of the crediting period, first crediting period if the choice is renewable CP:

(insert number) years (insert number) months

A.4.4. Estimated amount of emission reductions over the chosen crediting period:

(insert number) tCO_2e over (insert number) years.

A.4.5. Public funding of the CPA:

(Indicate clearly if public funding was or was not used in the development of the CPA).

A.4.6. Information to confirm that the proposed small-scale CPA is not a de-bundled component

(Insert text clearly showing the argument and information confirming that the CPA is not a de-bundled component using the latest approved debundling guidance)

A.4.7. Confirmation that small-scale CPA is neither registered as an individual CDM project activity or is part of another Registered PoA:

The CME confirms that the small-scale CPA is neither registered as an individual CDM project activity nor is it a part of another registered PoA.

SECTION B. Eligibility of small-scale CPA and Estimation of emissions reductions

B.1. Title and reference of the Registered PoA to which small-scale CPA is added:

NuPlanet Small Hydropower PoA

B.2. Justification of the why the small-scale CPA is eligible to be included in the Registered PoA:

The table below justifies the inclusion of the small-scale CPA in the registered PoA.

Eligibility Criteria from Registered PoA	Discussion How Small-Scale CPA Satisfies the Individual Criteria
1. Any CPA must be located within the internationally recognised boundaries of the following countries that are members of the SAPP	CPA is located within (insert country).
2. Each CPA must be linked to specific geographical co-ordinates supported by a description of its location (the description should include a reference to a national land registry system, if such a system exists)	Done for CPA. See A.4.1 above.
3. Each CPA will use hydroelectricity renewable energy generation technology only. The technology will satisfy all relevant national testing and certification requirements.	The CPA is a hydroelectricity project.
4. Each CPA should show that the earliest date of its first real action or implementation or construction was after the date on which the CDM-PoA-DD was published for Global Stakeholder Consultation.	It is expected that the first date of real action (insert brief description of action) will occur in (insert date), which is after the date on which the CDM-PoA-DD was published for Global Stakeholder Consultation.
5. The CPA must have a capacity of less than 15MW.	The CPA has a capacity of (insert number less than 15) MW.
6. The CPA must involve either the (a) installation of either a new power plant at a site where there was no renewable energy power plant operating prior to the implementation of the project activity (Greenfield Plant) or (b) involve a capacity addition or (c) involve a retrofit of an existing plant or (d) a replacement.	(Insert text justifying eligibility in terms of the four options given)
7. CPAs with reservoirs must satisfy at least one of the following conditions: • The CPA is implemented in an existing reservoir with no change in the volume of reservoir. • The CPA is implemented in an existing	(Insert text justifying eligibility in terms of conditions given)

reservoir, where the volume of reservoir is increased and the power density of the project activity, as per definitions given in the project emissions section, is greater than 4 W/m^2. • The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, is greater than 4 W/m^2.	
8. CPAs will demonstrate additionality using, either the requirements of the "Guidelines for demonstrating additionality of microscale project activities", or Attachment A of Appendix B of the "Simplified modalities and procedures for small-scale CDM project activities".	This CPA will demonstrate additionality using (insert text indicating how additionality is to be demonstrated).
9. CPAs will have undertaken stakeholder consultations, which will have been formally recorded.	(Insert text indicating how stakeholder consultations were done).
10. CPAs will have undertaken an analysis of their environmental impacts, which will have been formally recorded.	(Insert text indicating how environmental analysis was done).
11. CPAs that have received development assistance will submit written confirmation from the assistance provider that this has not resulted in a diversion of official development assistance.	(Insert text indicating that if the project has received official development assistance then this did not result in a diversion of official development assistance).
12. CPAs shall show that they are not debundled projects through the application of the latest approved version of the "Guidelines on assessment of debundling for SCC project activities".	(Insert text indicating how the CPA is not a debundled project using the latest version of the debundling guidelines).

B.3. Assessment and demonstration of additionality of the small-scale CPA, as per eligibility criteria listed in the Registered PoA:

In this section the text will present the case for additionality for the project using the following guidance.

To assess and demonstrate additionality CPAs will use the latest version of the "Standard for Demonstration of Additionality, Development of Eligibility Criteria and Application of Multiple Methodologies for Programme of Activities".

The version and date of the guidance used will be presented in the CPA.

The standard indicates that additionality shall be demonstrated by establishing that in the absence of the CDM, the CPA shall not occur.

Small-Scale Projects will use the version of the "Tool for the demonstration and assessment of additionality" as indicated in the PoA DD (the version and date of the tool will be clearly stated).

In the case of PoAs that consist of one or more small-scale projects (as is the case with this PoA) CPAs shall include eligibility criteria derived from all the relevant requirements of Attachment A of Appendix B of the "Simplified modalities and procedures for small-scale CDM project activities".

This indicates that the CPA document shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

(a) **Investment barrier:** a financially more viable alternative to the project activity would have led to higher emissions;

(b) **Technological barrier:** a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions;

(c) **Barrier due to prevailing practice:** prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;

(d) **Other barriers:** without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher.

Alternatively each CPA could develop an investment analysis as per the latest "Guidance on the Assessment of Investment Analysis (the CPA shall detail the version and date of this guidance). This will determine whether the proposed project activity is not the most economically or financially attractive, or economically or financially feasible, without the revenue from the sale of CERs.

For Micro-Scale projects it is expected that, during the period of the PoA's validity, the Designated National Authorities of countries within the PoA's boundary will motivate to the EB for grid connected hydro power projects (equal to or smaller than 5 MW) to be automatically additional. This in terms of the "Guidelines for Demonstrating Additionality of Microscale Project Activities and the "Procedure for Submission and Consideration of Microscale Renewable Energy Technologies for Automatic Additionality

If this is the case and hydro projects are approved by the EB as specific renewable technologies/measures conferring additionality on microscale CDM project activities implemented in the country for which the DNA submitted the proposal, then this will be used to demonstrate additionality.

For small scale projects the relevant requirements of Attachment A of Appendix B of the "Simplified modalities and procedures for small-scale CDM project activities" in terms of barrier analysis would apply.

For the investment analysis the data required would be guided by the latest version of the "Guidelines on the Assessment of Investment Analysis". As far as possible the default values for the expected return on

equity detailed in the appendix will be used to determine whether or not the project would be financially viable without the incentive of the CDM.

B.4. Description of the sources and gases included in the project boundary and proof that the small-scale CPA is located within the geographical boundary of the registered PoA.

Table E.3: Emissions sources included in or excluded from the CPA boundary

Source		Gas	Included?	Justification / Explanation
Baseline	CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity	CO_2	Yes	Main emission source
		CH_4	No	Minor emission source
		N_2O	No	Minor emission source
CPA	For hydro power plants with no reservoirs or existing reservoirs.	CO_2	No	No GHG emissions associated with the CPA.
		CH_4	No	
		N_2O	No	
CPA	For hydro power plants with new reservoirs.	CO_2	No	Minor emission source.
		CH_4	Yes	Main emission source.
		N_2O	No	Minor emission source.

Re table E.3 above insert appropriate content for CPA source and related content depending on nature of project.

The geographical co-ordinates of the project clearly indicate it is within the boundaries of (insert name of country).

B.5. Emission reductions:

B.5.1. Data and parameters that are available at validation:

Data / Parameter:	$EG_{PJ,y}$
Data unit:	(MWh/yr)
Description:	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*
Source of data used:	Estimate
Value applied:	(Insert value)
Justification of the choice of data or description of measurement methods and procedures actually applied :	
Any comment:	

Data / Parameter:	$EF_{grid, CM, y}$
Data unit:	tCO_2/MWh
Description:	The Combined margin CO_2 emission factor for grid connected power generation in year *y*
Source of data used:	Calculation by using the latest version of the "Tool to calculate the emission factor for an electricity system" for (insert text indicating whether the emission factor is for the country the project is located in or the SAPP) (see Annex 3)
Value applied:	(insert value)
Justification of the choice of data or description of measurement methods and procedures actually applied :	
Any comment:	

B.5.2. Ex-ante calculation of emission reductions:

The baseline emissions are the product of electrical energy baseline $EG_{BL,y}$ expressed in MWh of electricity produced by the renewable generating unit multiplied by the grid emission factor.

$$BE_y = EG_{BL,y} * EF_{CO_2,grid,y}$$

Where:

BE_y Baseline Emissions in year *y* (t CO_2e)

$EG_{BL,y}$ Quantity of net electricity supplied to the grid as a result of the implementation of the CDM project activity in year *y* (MWh)

$EF_{CO2,grid,y}$ CO_2 emission factor of the grid in year *y* (t CO_2/MWh)

i.e. BE_y = (insert figure) * (insert figure) = 18 175t CO_2e

The emissions reductions are then calculated as follows:

$$ER_y = BE_y - PE_y - LE_y$$

Where:

ER_y Emission reductions in year *y* (t CO_2/y)

BE_y Baseline Emissions in year *y* (t CO_2/y)

PE_y Project emissions in year *y* (t CO_2/y)

LE_y Leakage emissions in year *y* (t CO_2/y)

i.e. ER_y = (insert figure) – (insert figure) – (insert figure) = (insert figure) CO_2e

B.5.3. Summary of the ex-ante estimation of emission reductions:

Year	Estimation of project activity emissions (tonnes of CO_2 e)	Estimation of baseline emissions (tonnes of CO_2 e)	Estimation of leakage (tonnes of CO_2 e)	Estimation of overall emission reductions (tonnes of CO_2 e)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
(Insert year)	(Insert value)	(Insert value)	(Insert value)	(Insert value)
Total (tonnes of CO_2 e)	(Insert value)	(Insert value)	(Insert value)	(Insert value)

B.6. Application of the monitoring methodology and description of the monitoring plan:

B.6.1. Description of the monitoring plan:

1. Monitoring Period

The monitoring period will start from the date of commissioning of the CPA. An annual monitoring report will be produced for full calendar years (or part thereof for the first year depending on the commissioning date).

2. Data Monitored and Sources

The quantity of net electricity generation that is produced and fed into the grid by the CPA in year *y* shall be determined on the basis of the measurements taken by the electricity meters. As an accuracy check the meters will be cross-checked with records for sold electricity. If there is a material difference (defined as being more than 1%), this would be investigated, explained and discussed in the monitoring report.

Each CPA will have two bi-directional meters recording net electricity production. The first is the Main Meter which is the primary source for all data readings. The second is a check meter, which is a back-up meter which records data concurrently with the main meter. It is used if the Main meter is considered

faulty or inaccurate. Data gathering is done remotely or if the remote system is down the data is downloaded manually at the facility.

3. Monitoring Plan Management

The CPA facility manager is responsible for the effective implementation of the monitoring management plan. All elements of the monitoring plan will be supported by formal procedures and regular training of delegated personnel, as appropriate.

The CME is responsible for managing and monitoring the data set that generates the grid emission factor.

4. Storage of Data

All data collected will be archived electronically in multiple locations (at least two) to ensure no data is lost. All data will be kept for at least two years after the end of the crediting period.

5. Meter Calibration

Meters will be calibrated in accordance with the manufacturer's requirements. The results of each calibration will be recorded in a formal report and the report archived.

The monitoring of the quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CPA in year *y* and the grid emission factor will be undertaken by the CPA with assistance from the CME as follows:

- The CPA developer will monitor and record the monitoring parameters ;
- The CME will provide guidance to the CPA developer on how the monitoring should be conducted and how data should be collected with regards to the emission reduction calculations;
- The CPA developer will provide data on monitored parameters, required calculations (if any) and any documentary evidence required to the CME;
- The CME will document and store all data related to the parameters, provided by CPA developer in a central electronic database (PoA monitoring database), while primary data will be stored by the CPA developer. The data for the CPA will be kept for at least two years after the end of the last crediting period for the CPA; and,
- The CME will review relevant CPA monitoring records, prepare the monitoring report and provide the monitoring report to the DOE.

The data and parameters to be monitored by the CPA are as follows:

Data / Parameter:	$EG_{PJ,y}$
Data unit:	MWh/yr
Description:	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CPA in year *y*
Source of data to be used:	Meters at project activity site.
Value of data applied for the purpose of	Not Applicable.

calculating expected emission reductions in section B.5	
Description of measurement methods and procedures to be applied:	Electricity meters separately measure each CPA, at the boundary between the CPA and the electricity grid. The parameter will be monitored continuously and the data aggregated monthly for monitoring purposes. The meter accuracy will be determined when installed through an assessment of the appropriate national standards for the meter type to be used.
QA/QC procedures to be applied:	Cross check measurement results with records for sold electricity. Any differences to be discussed in monitoring report. Calibration schedule for electricity meters to be developed and implemented. This will be done in accordance with the manufacturer's specifications and if required by an accredited organisation.
Any comment:	

Data / Parameter:	$EF_{grid,CM,y}$
Data unit:	tCO_2/MWh
Description:	Combined margin CO_2 emission factor for grid connected power generation in year *y* calculated using the latest version of the "Tool to calculate the emission factor for an electricity system"
Source of data:	As per the "Tool to calculate the emission factor for an electricity system". Calculations done by Promethium Carbon (Pty) Ltd
Value of data applied for the purpose of calculating expected emission reductions in section B.5	Not applicable.
Description of measurement methods and procedures to be applied:	
QA/QC procedures to be applied:	
Any comment:	-

C.1. Please indicate the level at which environmental analysis as per requirements of the CDM modalities and procedures is undertaken. Justify the choice of level at which the environmental analysis is undertaken:

(Insert text indicating and justifying the level at which environmental analysis has been undertaken)

C.2. Documentation on the analysis of the environmental impacts, including transboundary impacts:

(Insert text documenting the source of the environmental analysis and the results)

C.3. Please state whether an environmental impact assessment is required for a typical CPA, included in the programme of activities (PoA), in accordance with the host Party laws/regulations:

(State clearly if an environmental impact assessment was required in accordance with the host Party's laws/regulations)

SECTION D. Stakeholders' comments

D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice:

(Insert text indicating and justifying the level at which stakeholders comments were invited)

D.2. Brief description how comments by local stakeholders have been invited and compiled:

(Insert text describing how comments by local stakeholders were invited and complied)

D.3. Summary of the comments received:

(Insert text providing a summary of the comments received)

D.4. Report on how due account was taken of any comments received:

(Insert text indicating how due account was taken of any comments received)

Annex 1

CONTACT INFORMATION ON ENTITY/INDIVIDUAL RESPONSIBLE FOR THE SMALL-SCALE CPA

Organization:	To be completed as appropriate
Street/P.O.Box:	To be completed as appropriate
Building:	To be completed as appropriate
City:	To be completed as appropriate
State/Region:	To be completed as appropriate
Postfix/ZIP:	To be completed as appropriate
Country:	To be completed as appropriate
Telephone:	To be completed as appropriate
FAX:	To be completed as appropriate
E-Mail:	To be completed as appropriate
URL:	To be completed as appropriate
Represented by:	To be completed as appropriate
Title:	To be completed as appropriate
Salutation:	To be completed as appropriate
Last Name:	To be completed as appropriate
Middle Name:	To be completed as appropriate
First Name:	To be completed as appropriate
Department:	To be completed as appropriate
Mobile:	To be completed as appropriate
Direct FAX:	To be completed as appropriate
Direct tel:	To be completed as appropriate
Personal E-Mail:	To be completed as appropriate

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

Annex 3

BASELINE INFORMATION

Insert text showing application of latest version of the tool to calculate an emission for an electricity system with regard to the country the CPA is located in or the SAPP

Annex 4

MONITORING INFORMATION

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