



**PROGRAMME DESIGN DOCUMENT FORM FOR CDM PROGRAMMES OF ACTIVITIES  
(F-CDM-PoA-DD)  
Version 02.0**

**PROGRAMME OF ACTIVITIES DESIGN DOCUMENT (PoA-DD)**

**PART I. Programme of activities (PoA)**

**SECTION A. General description of PoA**

**A.1. Title of the PoA**

Grid Connected Photovoltaic (PV) Renewable Electricity Generating Facilities PoA  
Version 1.1 (in response to DVR findings)  
Date PoA-DD Completed: 02/08/2012

**A.2. Purpose and general description of the PoA**

The stated objective of this PoA is to support the development and implementation of PV renewable electricity generation facilities in South Africa. These facilities will, through increasing the amount of renewable energy supplied to the grid and reducing its reliance on fossil fuel based electricity generation, support its decarbonisation.

The PoA makes a positive contribution to sustainable development. The participant's view of the project's contribution uses the South African Designated National Authority's (DNA) framework for how projects will be assessed in this regard. There are three key criteria that are used as the basis for this assessment i.e.

- Economic (Does the project contribute to national economic development?);
- Social (Does the project contribute to social development in South Africa?); and,
- Environmental (Does the project conform to the National Environmental Management Act's principles of sustainable development?).

A view on each of these criteria is given below:

**Economic**

In terms of the question "Does the project contribute to national economic development?" the South African DNA considers the project in terms of its economic impacts as well as its appropriate technology transfer.

Having an adequate and secure electricity supply to satisfy internal demand is a prerequisite for economic growth and development in South Africa. The negative economic impact of not having enough electricity was seen in 2008 when a series of blackouts was experienced in South Africa as a result of the mismatch between supply and demand. Projects supplying electricity into the grid support this through there being additional generation capacity in the country, as well as there being further diversification in the country's energy mix which supports the country's energy security. The PoA therefore supports South Africa's national economic development objectives.



It will also have a positive impact on economic activity in the area in terms of the additional income coming into the community as a result of local employment and the local purchase of services and goods.

People employed by the project will have skills training in order for them to be able to carry out the duties required of them. The technology will be sourced internationally and will give South African engineers and technicians exposure to PV technology increasing our skills base in the country.

### **Social**

In terms of the question “Does the project contribute to social development in South Africa?” the South African DNA considers this with respect to its alignment with national, provincial and local development priorities, as well as its impact on social equity and poverty alleviation.

The South African Government’s economic policy is defined in the New Growth Path, with unemployment recognised as key problem in the country that needs to be addressed. This document therefore indicates that the key social development deliverable the policy is aiming to support is the creation of new jobs in South Africa. The projects that fall under this PoA will create jobs during the construction and operational phases supporting the Government’s policy objectives.

This developmental imperative is also a priority at provincial and local level. The projects that fall under the auspices of this PoA will generally be located in rural areas in South Africa that are underdeveloped and will therefore contribute to the upliftment of previously disadvantaged communities.

The PoA will specifically support the Government’s target for renewable energy i.e. 10 000 GWh of total renewable energy contribution by 2013, and the role for renewable electricity generation facilities envisaged in the Integrated Resource Plan (IRP).

### **Environmental**

In terms of the question “Does the project conform to the National Environmental Management Act’s principles of sustainable development?” the South African DNA considers this in terms of impacts on local environmental quality, changes in usage of natural resources and impacts on biodiversity and ecosystems.

The National Environmental Management Act, NEMA (No. 107 of 1998) is the primary piece of environmental legislation in South Africa. Its aim is to ensure that the environmental right in the South African Constitution is supported. The environmental right states that everyone has the right to an environment that is not harmful to his or her health or well-being. In terms of actually operationalising this right, activities are guided by the principles defined in the act, which include a number of principles for sustainable development.

This PoA will support the principle “that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied”. This is because the project activity will displace fossil-fuel generated electricity with its associated negative environmental impacts (e.g. air pollution and water pollution from ash waste). By supporting the development of renewable energy the PoA will reduce the pressure on South Africa’s natural resources.

By the nature of the projects themselves PV renewable electricity generating facilities have limited and localised impacts on environmental quality, biodiversity and ecosystems. The EIA process (and the environmental management plans they have to develop) in South Africa assists in ensuring that any such impacts are identified, assessed and formally managed.



In terms of the framework for implementation of the PoA, this PoA involves the installation and operation of large-scale and small-scale grid connected PV renewable electricity generation facilities. The PoA is located in the Republic of South Africa.

The Carbon Protocol of South Africa (for here in the document referred to as CPSA) is the CME for this PoA. The CPSA, as the CME, confirms that this PoA is a voluntary action. There are no regulatory requirements in South Africa for the CME to develop and register this PoA, and further there are no regulatory requirements for Solar PV CPA implementers in South Africa to register their projects as CPAs with this or any other PoA.

### A.3. CMEs and participants of PoA

The Carbon Protocol of SA as the CME for this PoA is the entity that will communicate with the Board.

### A.4. Party(ies)

Name of Party involved (host) indicates a host Party	Private and/or public entity(ies) project participants (as applicable)	Indicate if the Party involved wishes to be considered as project participant (Yes/No)
Republic of South Africa (Host)	Carbon Protocol of SA (private entity).	No

### A.5. Physical/ Geographical boundary of the PoA

The geographical boundaries of this PoA are the internationally recognised borders of the Republic of South Africa. In implementing the PoA, the CME will take due cognisance of the requirements of all applicable South African national and/or sectoral policies and regulations.

### A.6. Technologies/measures

The CPA would involve the generation of electrical power through photovoltaic panels. These panels will be erected on support structures and will convert the energy of solar radiation into direct electrical current. The direct current will be fed into inverters to convert it into alternating current, and from there the electricity will be fed into the South African national grid via a substation.

All equipment installed, including the PV panels, will be compliant with all applicable South African standards and regulations.

### A.7. Public funding of PoA

The PoA has and is not receiving public funding from Parties included in Annex 1.

## **SECTION B. Demonstration of additionality and development of eligibility criteria**

### **B.1. Demonstration of additionality for PoA**

It is confirmed by the project participants that the PoA is a voluntary co-ordinated action. Each CPA falling under the PoA will demonstrate additionality on the basis of the applicable provisions in the latest version of methodology ACM0002, as well as the latest relevant tools that provide guidance specifically including the “Tool for the Demonstration and Assessment of Additionality”.

At the time of the PoA’s development the latest version of ACM 0002 (Version 13.0.0 EB 67, Annex 13, 11<sup>th</sup> May 2012) directs that the additionality of the project activity (in this case a CPA) shall be demonstrated and assessed using the latest available version of the “Tool for the Demonstration and Assessment of Additionality”. At the time of the development of the PoA this was Version 06.0.0 (EB 65, Annex 2, 25<sup>th</sup> November 2012). Which is applied below.

This tool provides for a step-wise approach to demonstrate and assess additionality.

These steps include:

- Identification of alternatives to the project activity;
- Investment analysis to determine that the proposed project activity is either: 1) not the most economically or financially attractive, or 2) not economically or financially feasible;
- Barriers analysis; and
- Common practice analysis.

These steps will be described for the two types of typical CPA that fall under the umbrella of this PoA. These are: new PV renewable electricity generation facilities; and, capacity additions.

#### **Step 1: Identification of alternatives in the project activity consistent with the current laws and regulations**

Realistic and credible alternatives to the CPA will be defined through the Sub-steps detailed below

##### **Sub-step 1a: Define alternatives to the project activity.**

The realistic and credible alternatives to the CPA to be considered by the project developer (that provide outputs comparable with the proposed CPA) would be:

- (a) The proposed project activity undertaken without being registered as a CDM project activity;
- (b) Other realistic and credible alternative scenario(s) to the proposed CDM project activity scenario that deliver outputs services (e.g., cement) or services (e.g. electricity, heat) with comparable quality, properties and application areas, taking into account, where relevant, examples of scenarios identified in the underlying methodology;
- (c) If applicable, continuation of the current situation (no project activity or other alternatives undertaken).

The tool indicates that when using ACM 0002, a CPA will only need to identify that there is at least one credible and feasible alternative that would be more attractive than the proposed CPA.

Therefore for the two types of typical CPA the following alternatives shall be considered:



	Alternatives To be Considered
Type One Typical CPA – New Grid-Connected Renewable Energy Plant	The proposed project activity undertaken without being registered as a CPA i.e. with no carbon revenue.
Type Two Typical CPA – Capacity Addition	There is a continuation of the current situation and the CPA is not implemented.

**Outcome of Sub-step 1a:** For each CPA one credible and feasible alternative to it will be identified using the guidance detailed above, dependent on what type of typical CPA it is.

**Sub-step 1b: Consistency with mandatory laws and regulations.**

The alternatives shall be assessed in terms of their compliance with applicable mandatory legal and regulatory requirements.

**Outcome of Step 1b:** The identified and realistic and credible alternatives to the CPA that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations can proceed.

**“Proceed to Step 2 (Investment Analysis) or Step 3 (Barrier Analysis). (Project Participants may also select to complete Steps 2 and 3)”**

Each CPA under this PoA will have the option to decide whether they proceed via Step 2 (Investment Analysis) or to Step 3 – (Barrier Analysis)

**Step 2: Investment Analysis**

This analysis will be done using, where appropriate, the latest version of the “Guidelines on the Assessment of Investment Analysis:

**Sub-step 2a: Determine Appropriate Analysis Method.**

All CPAs will use Benchmark Analysis as data is available to do comparisons within the South African financial system. The Benchmark Analysis will apply to Equity IRR for the CPA.

**Sub-step 2b: Option III. Apply Benchmark Analysis**

The Equity IRR will be compared against the most appropriate existing equity benchmark available indicating the return required on solar PV projects in South Africa.

**Sub-step 2c: Calculation and comparison of financial indicators**

Each CPA will choose an appropriate benchmark to compare to the Equity IRR. The benchmarks may be nationally determined or reflect required expected returns on equity for such projects in South Africa.

**Sub-step 2d: Sensitivity analysis**

For proposed CPAs, identify those variables that constitute more than 20% of either total project costs or project revenues. The sensitivity analysis will then use these variables only to indicate potential impacts on the equity IRR and its relationship with the benchmark.

**Outcome of Step 2:** If the CPA is shown to be unattractive from an investment point of view then the CPA should proceed to Step 4.

### **Step 3: Barrier Analysis**

Any CPA that falls under the ambit of the PoA will be able to utilize a barrier analysis as an alternative to an investment analysis.

This Step will use the latest version of the “Guidelines for Objective Demonstration and Assessment of Barriers” to undertake the analysis, in conjunction with the latest version of the “tool for the demonstration and assessment of additionality”

### **Step 4: Common Practise Analysis**

Each CPA will be analysed in terms of the extent to which the proposed type of typical CPA has already diffused in the applicable geographical area. The applicable geographical area for this analysis will be the entire host country i.e. the Republic of South Africa.

This is done through the application of the following Sub-steps:

**Sub-step 4a:** Analyse other activities similar to the proposed project activity:

**Sub-step 4b:** Discuss any other options that are occurring:

#### **Sub-step 4a: Analyse other activities similar to the proposed project activity:**

The tool indicates that for each CPA an analysis of other activities that are operational and that are similar to the CPA will be done. Projects are to be considered similar if they are in South Africa, and are large-scale or small-scale PV renewable electricity generation facilities. On the basis of documented evidence (and if possible quantitative information) the result of this analysis will be a description whether, and to what extent, similar activities have already diffused in the relevant region.

As per the tool’s guidance other CDM project activities (registered project activities and project activities which have been published on the UNFCCC website for global stakeholder consultation) are **NOT** to be included in the analysis.

#### **Outcome of Sub-Step 4a:**

There are two potential outcomes for Sub-Step 4a, which will influence how the common practise analysis proceeds. These are:

- There are **no** operational activities that are similar to the CPA in South Africa – in this case the analysis is complete and the CPA is deemed **additional**; or,
- Similar activities are **widely observed and commonly carried out** – in this case the analysis proceeds to Sub-step 4b.

#### **Sub-step 4b: Discuss any similar options that are occurring:**

If Sub-step 4a indicates that similar activities are widely observed and commonly carried out in South Africa, it is necessary to demonstrate why the existence of these activities does not contradict the claim that the CPA is subject to barriers.

This will be done by comparing the CPA to the other similar activities, and pointing out and explaining essential distinctions between them that explain why the similar activities enjoyed certain benefits that rendered them financially/economically attractive and which the CPA cannot use, or why they did not face the barriers to which the CPA is subject.

Essential distinctions may include a serious change in circumstances under which the proposed CPA will be implemented when compared to the circumstances under which the similar projects were carried out. The change must be fundamental and verifiable.

#### Outcome of Sub-step 4b:

There are 2 possible outcomes of Sub-step 4b, which influence the decision as to whether the CPA is additional or not. These are:

- Similar activities are observed, but essential distinctions between the CPA and similar activities **can reasonably be explained**, then the CPA is **Additional**; or,
- Similar activities can be observed and essential distinctions between the CPA and similar activities **cannot reasonably be explained**, then the CPA is **Not Additional**.

## B.2. Eligibility criteria for inclusion of a CPA in the PoA

The eligibility criteria used for assessing whether or not a proposed CPA may be enrolled into this PoA have been developed using the guidance contained in the “Standard for Demonstration of Additionality, Development of Eligibility Criteria and Application of Multiple Methodologies for Programme of Activities” (Version 01.0, EB 65 Annex 3 25<sup>th</sup> November 2011). The table below indicates how this has been done.

Minimum Requirements for Eligibility Criteria	CPA Eligibility Criterion Developed to Address Minimum Requirements
(a) The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA.	1. Any CPA must be located within the internationally recognised boundaries of the Republic of South Africa.
(b) Conditions that avoid double-counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo).	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)
(c) The specification of technology/measure including the type of service, performance specifications including testing/certifications.	3. Each CPA will use PV renewable energy generation technology only. The technology will satisfy all relevant national testing and certification requirements.
(d) Conditions to check the start date of the CPA through documentary evidence.	4. Each CPA will show that the first 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.
(e) Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs	5. Each CPA will be a solar PV grid-connected renewable power generation project that is either (a) an installation of a new power



<p>(in this case ACM 0002 Consolidated Baseline Methodology for Grid-Connected Electricity Generation from Renewable Sources – at the time of the PoA’s development this was version 12.2.0 EB 65, Annex 16, 25<sup>th</sup> November 2011).</p>	<p>plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant) (b) or involve a capacity addition.</p>
<p>(f) The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in section III. A of the “Standard for Demonstration of Additionality, Development of Eligibility Criteria and Application of Multiple Methodologies for Programme of Activities”.</p>	<p>6. In the case of a CPA that involves a capacity addition, the most plausible baseline scenario, as a result of the identification of baseline scenario, is the “continuation of the current situation i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.</p>
<p>(g) The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis.</p>	<p>7. CPAs will demonstrate additionality using the requirements specified in the “Tool for the demonstration and assessment of additionality” or, attachment A of Appendix B of the “Simplified modalities and procedures for small-scale CDM project activities”.</p>
<p>(h) Conditions to provide an affirmation that funding from Annex 1 parties, if any, does not result in a diversion of official development assistance.</p>	<p>8. CPAs will have undertaken stakeholder consultations, which will have been formally recorded.</p>
<p>(i) Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/off-grid) and distribution mechanisms (e.g. direct installation).</p>	<p>9. CPAs will have undertaken an analysis of their environmental impacts, which will have been formally recorded.</p>
<p>(j) Where applicable, the conditions related to the sampling requirements for a PoA in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys.</p>	<p>10. 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.</p>
<p>(k) Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or microscale threshold criteria and remains within those thresholds throughout the crediting period of the CPA.</p>	<p>Not applicable to this PoA due to the nature of the projects.</p>
<p>(l) Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.</p>	<p>Not applicable to this PoA, as all CPAs falling under the umbrella of the PoA will be verified.</p>
<p>(m) Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or microscale threshold criteria and remains within those thresholds throughout the crediting period of the CPA.</p>	<p>Not applicable to the CPAs in this PoA due to the nature of the projects.</p>
<p>(n) Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.</p>	<p>Not applicable as all CPAs will be using the large-scale methodology.</p>

### B.3. Application of methodologies

The technology chosen for this PoA is Solar Power Photovoltaic (PV) based generation technology

The methodology chosen is ACM 0002 “Consolidated baseline methodology for grid-connected electricity generation from renewable sources” (the latest version at the time of drafting the PoA documentation was Version 13.0.0 as per EB 67, Annex 13, 11<sup>th</sup> May 2012). ACM 0002 is the only methodology that will be applied to CPAs falling under this umbrella of this PoA.

Use of this methodology by the PoA will also use the following tools:

- “Tool for the demonstration and assessment of additionality” (the latest version at the time of drafting the PoA documentation was Version 06.0.0, EB 65, Annex 21, 25<sup>th</sup> November 2011); and,
- “Tool to calculate the emission factor for an electricity system” (the latest version at the time of drafting the PoA documentation was Version 02.2.1. EB 63, Annex 19, 29<sup>th</sup> September 2011).

In terms of justification of the choice of methodology, the table below lists the applicability criteria detailed in ACM 0002 and for each criteria details why it is applicable to CPAs envisaged falling under the umbrella of this CPA. In ACM 0002 it also requires that applicability conditions included in the tools also be included.

ACM 0002 Applicability Criteria	CPA Applicability?
<p>The methodology is applicable to grid-connected renewable power generation project activities that (a) install a new power plant at a site where no renewable power plant was operated prior to the implementation of the project activity (greenfield plant); (b) involve a capacity addition; (c) involve a retrofit of (an) existing plant(s); or (d) involve a replacement of (an) existing plant(s).</p>	<p><b>Applicable</b></p> <p>The CPAs under this PoA will be grid-connected renewable electricity power generation projects that either; involve the installation of PV technology at sites that had no renewable energy plant operated previously; or, involve a capacity addition.</p> <p>All CPAs will fall under this large-scale methodology, even if they are small-scale or micro-scale.</p>
<p>The methodology is applicable under the following conditions:</p> <p>The project activity is the installation, capacity addition, retrofit or replacement of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit;</p>	<p><b>Applicable</b></p> <p>The CPAs will use solar power plant/units based on PV technology.</p>
<p>The methodology is applicable under the following conditions:</p> <p>In the case of capacity additions, retrofits or</p>	<p><b>Criterion Not Relevant</b></p> <p>Criteria not applicable to solar power capacity addition projects.</p>



<p>replacements (except for wind, solar, wave or tidal power capacity addition projects which use Option 2: on page 10 to calculate the parameter <math>EGPJ,y</math>): the existing plant started commercial operation prior to the start of a minimum historical reference period of five years, used for the calculation of baseline emissions and defined in the baseline emission section, and no capacity expansion or retrofit of the plant has been undertaken between the start of this minimum historical reference period and the implementation of the project activity;</p>	
<p>The methodology is applicable under the following conditions:</p> <p>In case of hydro power plants:</p> <ul style="list-style-type: none"> <li>- one of the following conditions must apply: <ul style="list-style-type: none"> <li>o The project activity is implemented in an existing single or multiple reservoirs, with no change in the volume of any of the reservoirs; or of reservoir; or</li> <li>o The project activity is implemented in an existing single or multiple reservoirs, where the volume of any of the reservoirs is increased and the power density of each reservoir, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>; or</li> <li>o The project activity results in new single or multiple reservoirs and the power density of each reservoir, as per definitions given in the project emissions section, is greater than 4 W/m<sup>2</sup>.</li> </ul> </li> </ul> <p>In case of hydro power plants using multiple reservoirs where the power density of any of the reservoirs is lower than 4 W/m<sup>2</sup> all the following conditions must apply:</p> <ul style="list-style-type: none"> <li>• The power density calculated for the entire project activity using equation 5 is greater than 4 W/m<sup>2</sup>;</li> <li>• Multiple reservoirs and hydro power plants located at the same river and where are designed together to function as an integrated project<sup>1</sup> that collectively constitute the</li> </ul>	<p><b>Criterion Not Relevant</b></p> <p>CPAs under this PoA will not be hydro projects.</p>

<sup>1</sup> This requirement can be demonstrated, for example: (i) by the fact that water flow from upstream power units spilling directly to the downstream reservoir; or (ii) through the analysis of the water balance. Water balance is the mass balance of water fed to power units, with all possible combinations of multiple reservoirs and without the construction of reservoirs. The purpose of such water balance is to demonstrate the requirement of specific combination of multiple reservoirs constructed under CDM project activity for the optimization of power output. This demonstration has to be carried out in the specific scenario of water availability in different seasons to optimize the water flow at the inlet of power units. Therefore this water balance will take into account seasonal flows from river, tributaries (if any), and rainfall for minimum three years prior to implementation of CDM project activity.

<p>generation capacity of the combined power plant;</p> <ul style="list-style-type: none"> <li>• Water flow between multiple reservoirs is not used by any other hydropower unit which is not a part of the project activity;</li> <li>• Total installed capacity of the power units, which are driven using water from the reservoirs with power density lower than 4 W/m<sup>2</sup>, is lower than 15 MW;</li> <li>• Total installed capacity of the power units, which are driven using water from reservoirs with power density lower than 4 W/m<sup>2</sup>, is less than 10% of the total installed capacity of the project activity from multiple reservoirs.</li> </ul>	
<p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> <li>• Project activities that involve switching from fossil fuels to renewable energy sources at the site of the project activity, since in this case the baseline may be the continued use of fossil fuels at the site.</li> </ul>	<p><b>Criterion Not Relevant</b></p> <p>CPAs under this PoA do not involve the switching from fossil fuels to renewable energy sources.</p>
<p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> <li>• Biomass fired plants.</li> </ul>	<p><b>Criterion Not Relevant</b></p> <p>CPAs under this PoA do not involve biomass fired power plants.</p>
<p>The methodology is not applicable to the following:</p> <ul style="list-style-type: none"> <li>• A hydro power plant<sup>2</sup> that results in the creation of a new single reservoir or in the increase in an existing single reservoir where the power density of the power plant is less than 4 W/m<sup>2</sup>.</li> </ul>	<p><b>Criterion Not Relevant</b></p> <p>CPAs under this PoA are not hydro power plants.</p>
<p>In the case of retrofits, replacements, or capacity additions, this methodology is only applicable if the most plausible baseline scenario, as a result of the identification of baseline scenario, is “the continuation of the current situation, i.e. to use the power generation equipment that was already in use prior to the implementation of the project activity and undertaking business as usual maintenance”.</p>	<p><b>Applicable</b></p> <p>Any CPAs that involve capacity additions will need to show that the most plausible baseline scenario is the continuation of the current situation in order to qualify to participate in this PoA.</p>
<p>Applicability condition from the “Tool for the demonstration and assessment of additionality”:</p>	<p><b>Applicable</b></p>

<sup>2</sup> Project participants wishing to undertake a hydroelectric project activity that result in a new reservoir or an increase in the existing reservoir, in particular where reservoirs have no significant vegetative biomass in the catchments area, may request a revision to the approved consolidated methodology.



<p>Applicable geographical area covers the entire host country as a default; if the technology applied in the project is not country specific, then the applicable geographical area should be extended to other countries. Project participants may provide justification that the applicable geographical area is smaller than the host country for technologies that vary considerably from location to location depending on local conditions.</p>	<p>The CPAs will all be located in the host country of South Africa.</p>
<p>Applicability condition from the “Tool to calculate the emission factor for an electricity system”:</p> <p>This tool may be applied to estimate the OM, BM and/or CM when calculating baseline emissions for a project activity that substitutes grid electricity, i.e. where a project activity supplies electricity to a grid or a project activity that results in savings of electricity that would have been provided by the grid (e.g. demand-side energy efficiency projects).</p>	<p><b>Applicable</b></p> <p>All the CPAs will involve the supply of electricity to the grid.</p>

## SECTION C. Management system

## SECTION D. Duration of PoA

### D.1. Start date of PoA

The start date of this PoA is determined by the earliest date at which real action of a PoA begins. This is defined as the uploading of the PoA for GSC i.e. 30/04/2012.

### D.2. Length of the PoA

28 Years 0 Months

## SECTION E. Environmental impacts

### E.1. Level at which environmental analysis is undertaken

Environmental analysis will be done at CPA level.

In terms of South African law, with regard to Environmental Impact Assessments (the Environmental Impact Assessment Regulations in terms of the National Environmental Management Act, NEMA, No. 107 of 1998), CPAs that fall under this PoA will require formal environmental analysis to be done on them. This and the fact that local conditions in which the CPAs are located will vary, requiring site specific environmental analysis and mitigation measures, are the reasons why environmental analysis is to be done at the CPA level.

**E.2. Analysis of the environmental impacts**

No analysis was done at PoA level as environmental analysis will be done at CPA level.

**E.3. Environmental impact assessment**

No Environmental Impact Assessment was required at PoA level.

**SECTION F. Local stakeholder comments****F.1. Solicitation of comments from local stakeholders**

Local stakeholder consultation will be done at CPA level.

As detailed in section C.1 above in terms of South African law with regard to Environmental Impact Assessments (the Environmental Impact Assessment Regulations in terms of the National Environmental Management Act, NEMA, No. 107 of 1998), CPAs that fall under this PoA will require formal environmental analysis to be done on them. Part of the environmental assessment process involves formal consultation with stakeholders. This, and the fact there will be different sets of stakeholders as a result of the different geographical locations within South Africa that the PoAs CPAs will be located, provide the rationale for stakeholder comments being invited at this level.

**F.2. Summary of comments received**

No stakeholder comments were solicited at PoA level. This will be done at CPA level.

**F.3. Report on consideration of comments received**

No stakeholder comments were solicited at PoA level. This will be done at CPA level.

**SECTION G. Approval and authorization**

Host country approval still to come.

**PART II. Generic component project activity (CPA)****SECTION A. General description of a generic CPA****A.1. Purpose and general description of generic CPAs**

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**SECTION B. Application of a baseline and monitoring methodology****B.1. Reference of the approved baseline and monitoring methodology(ies) selected**

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**B.2. Application of methodology(ies)**

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**B.3. Sources and GHGs**

Source		GHGs	Included?	Justification/Explanation
Baseline scenario	Source 1	CO <sub>2</sub>		
		CH <sub>4</sub>		
		N <sub>2</sub> O		
		...		
	Source 2	CO <sub>2</sub>		
		CH <sub>4</sub>		
		N <sub>2</sub> O		
		...		
	...	...		
		...		
		...		
		...		
Project scenario	Source 1	CO <sub>2</sub>		
		CH <sub>4</sub>		
		N <sub>2</sub> O		
		...		
	Source 2	CO <sub>2</sub>		
		CH <sub>4</sub>		
		N <sub>2</sub> O		
		...		
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**B.4. Description of baseline scenario**

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**B.5. Demonstration of eligibility for a generic CPA**

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**B.6. Estimation of emission reductions of a generic CPA**

**B.6.1. Explanation of methodological choices**

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**B.6.2. Data and parameters that are to be reported ex-ante***(Copy this table for each data and parameter.)*

<b>Data / Parameter</b>	
<b>Unit</b>	
<b>Description</b>	
<b>Source of data</b>	
<b>Value(s) applied</b>	
<b>Choice of data or Measurement methods and procedures</b>	
<b>Purpose of data</b>	
<b>Additional comment</b>	

**B.6.3. Ex-ante calculations of emission reductions**

&gt;&gt;

**B.7. Application of the monitoring methodology and description of the monitoring plan****B.7.1. Data and parameters to be monitored by each generic CPA***(Copy this table for each data and parameter.)*

<b>Data / Parameter</b>	
<b>Unit</b>	
<b>Description</b>	
<b>Source of data</b>	
<b>Value(s) applied</b>	
<b>Measurement methods and procedures</b>	
<b>Monitoring frequency</b>	
<b>QA/QC procedures</b>	
<b>Purpose of data</b>	
<b>Additional comments</b>	

**B.7.2. Description of the monitoring plan for a generic CPA**

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**Appendix 1: Contact information on entity/individual responsible for the PoA**

<b>Organization</b>	Carbon Protocol of SA
<b>Street/P.O. Box</b>	150 West Street Sandton c/o Lloyd Christie
<b>Building</b>	
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<b>Fax</b>	
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<b>Website</b>	www.carbonprotocol.org
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<b>Title</b>	General manager
<b>Salutation</b>	Ms
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**Appendix 2: Affirmation regarding public funding****Appendix 3: Application of methodology(ies)****Appendix 4: Further background information on ex ante calculation of emission reductions****Appendix 5: Further background information on the monitoring plan**

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## History of the document

Version	Date	Nature of revision(s)
02.0	EB 66 13 March 2012	Revision required to ensure consistency with the "Guidelines for completing the programme design document form for CDM programmes of activities" (EB 66, Annex 12).
01	EB33, Annex 41 27 July 2007	Initial adoption.
<b>Decision Class:</b> Regulatory <b>Document Type:</b> Form <b>Business Function:</b> Registration		