



PoA VALIDATION REPORT

EThekweni Municipality

RESIDENTIAL HOT WATER EFFICIENCY
PROGRAMME IN SOUTH AFRICA

EThekweni Municipality Residential Hot Water
Efficiency Programme – CPA1

Report No: 8000410284 - 12/ 360 - PoA

Date: 2012-12-25

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PoA Validation Report:	Report No.	Rev. No.	Date of 1st issue:	Date of this rev.
	8000410284-12/360- PoA	0	2012-12-25	2012-12-25
PoA:	Title:		Initial PoA-DD Version:01	Final PoA-DD Version:06
	Residential Hot Water Efficiency Programme in South Africa		2011-11-01	2012-12-21
Real case CPA:	Title:		Initial real case CPA-DD Version:01	Final real case CPA-DD Version:06
	eThekweni Municipality Residential Hot Water Efficiency Programme – CPA1		2012-05-23	2012-12-21
Project Participant(s):	Non-Annex 1 country:		Annex 1 country:	
	-		-	
	PP from Non-Annex 1 country:		PP from Annex 1 country:	
	eThekweni Municipality		-	
	Coordinating Managing Entity			
	eThekweni Municipality			
Applied methodology/ies:	Title:		No.:	Scope / TA:
	1. 'Solar water heating systems (SWH)' 2. 'Demand-side energy efficiency activities for specific technologies'		AMS I.J, version 01 AMS II.C, version 13	1 / 1.2 3 / 3.1
Validation team / Technical Review and Final Approval	Validation Team:		Technical review:	Final approval:
	R.S. Nikesh (TL) Grzegorz Kochaniewicz (TM) G. Ezhilarasu (TM)		David Lubanga (OR) Rainer Winter	Rainer Winter
Expected Emission reductions: [t CO₂e]	Expected emission reductions over the first crediting period:		(Expected) project starting date:	
	288,080 tCO ₂ e		2013-01-01	
Confidential content:	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No	
Key dates of validation:	Publication of PDDs:	Draft Report issued:	On-site (from):	On-site (to):
	2012-06-28	2012-07-06	2012-06-28	2012-06-29
Summary of Validation Opinion:	<p>In detail the conclusions can be summarised as follows:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The PoA is in line with all relevant host country criteria (South Africa) and all relevant UNFCCC requirements for CDM. Project activity approvals have been obtained from DNA of South Africa vide the Letter of Approval (HCA) dated 2012-09-12. <input checked="" type="checkbox"/> The PoA additionality is sufficiently justified in the PoA-DD. <input checked="" type="checkbox"/> The eligibility criteria established for CPA inclusion are deemed appropriate and sufficient. <input checked="" type="checkbox"/> The monitoring plan is transparent and adequate. <input checked="" type="checkbox"/> The calculation of the PoA emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 288,080 tCO₂e are most likely to be achieved within the crediting period (CPA1). <input checked="" type="checkbox"/> All information has been consistently applied in the generic CPA-DD form. <input checked="" type="checkbox"/> The conclusions of this report show, that the PoA, as it was described in the project documentation, is in line with all criteria applicable for the validation. 			



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Abbreviations

BAU	Business as usual
BM	Build Margin
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CM	Combine Margin
CME	Coordinating / Managing Entity
CO₂	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
CP	Certification Program
CPA	Component Project Activity
CPA-DD	Component Project Activity Design Document
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	CDM Executive Board
EF	Emissions Factor
EIA	Environmental Impact Assessment
ESKOM	South Africa Public Power Utility
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GSP	Global Stakeholder Consultation
GSCP	Global Stakeholder Consultation Process
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
HCA	Host Country Approval
ODA	Official Development Assistance
OM	Operating Margin
PP	Project Participant
PoA	Programme of Activities
PoA-DD	Programme of Activities Design Document
QC/QA	Quality control/Quality assurance



SABS	South Africa Bureau of Standards
SSC	Small Scale
UNFCCC	United Nations Framework Convention on Climate Change
VT	Validation Team
VVS	Validation and Verification Standard

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1 OBJECTIVE / SCOPE

The purpose of a PoA validation is to have an independent third party assess the project design. In particular the project's baseline, the monitoring plan (MP), and the project's compliance with

- the requirements of Article 12 of the Kyoto Protocol;
- the CDM modalities and procedures as agreed in the Marrakech Accords under decision 3/CMP.1
- the annex to the decision;
- subsequent decisions made by COP/MOP & CDM Executive Board and
- other relevant rules, including the host country legislation and sustainability criteria

are validated in order to confirm that the programme design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders on the quality of the project and its intended generation of certified emission reductions (CERs).

The validation scope is given as a thorough independent and objective assessment of the programme design including especially: the correct application of the methodology, the programme's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PoA-DD and other relevant supporting documents, to ensure that the proposed CDM programme activity meets all relevant and applicable CDM and PoA criteria.

The information included in

- the completed Clean Development Mechanism Programme of Activities Design Document Form (the "F-CDM-SSC-PoA-DD") incl.
 - Part A: Programme of activities (PoA) and
 - Part B: Generic component project activity (CPA)
- one completed real case F-CDM-SSC-CPA-DD (the "Real-Case CDM-CPA-DD"), and
- the relevant supporting documents

were reviewed against the requirements as set out by the UNFCCC. The validation team has, based on the requirements in the Validation and Verification Standard^{/VVS/}, carried out a full assessment of all evidence to assess the compliance of the programme with the key areas as outlined in section VII. and VIII.F of the VVS (version 02.0, EB 65) as well as the Standard for Demonstration of additionality, development of Eligibility Criteria and Application of Multiple Methodologies for Programme of activities^{/POAS/}.

The validation is not meant to provide any consulting to the project participants. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the programme design.



2 POA DESCRIPTION

2.1 PoA Characteristics

Essential data of the PoA is presented in the following Table 2-1.

Table 2-1: PoA / rcCPA Characteristics

Item	Data		
PoA title	Residential Hot Water Efficiency Programme in South Africa		
1st CPA (real case) title	eThekwini Municipality Residential Hot Water Efficiency Programme – CPA1		
PoA size	<input type="checkbox"/> Large Scale <input checked="" type="checkbox"/> Small Scale		
PoA Scope (according to UNFCCC sectoral scope numbers for CDM)	<input checked="" type="checkbox"/>	1	Energy Industries (renewable- /non-renewable sources)
	<input type="checkbox"/>	2	Energy distribution
	<input checked="" type="checkbox"/>	3	Energy demand
	<input type="checkbox"/>	4	Manufacturing industries
	<input type="checkbox"/>	5	Chemical industry
	<input type="checkbox"/>	6	Construction
	<input type="checkbox"/>	7	Transport
	<input type="checkbox"/>	8	Mining/Mineral production
	<input type="checkbox"/>	9	Metal production
	<input type="checkbox"/>	10	Fugitive emissions from fuels (solid, oil and gas)
	<input type="checkbox"/>	11	Fugitive emissions from production and consumption of halocarbons and hexafluoride
	<input type="checkbox"/>	12	Solvents use
	<input type="checkbox"/>	13	Waste handling and disposal
	<input type="checkbox"/>	14	Afforestation and Reforestation
	<input type="checkbox"/>	15	Agriculture
Applied Methodology/ies	(AMS) I.J ‘Solar water heating systems (SWH)’ Version 01, EB 60 (AMS) II.C ‘Demand-side energy efficiency activities for specific technologies’ Version 13, EB 48		
Technical Area(s)	1.2 – Renewable Energies 3.1 – Energy Demand		
Starting date of the PoA	2012-06-28		
CPA Crediting period	<input type="checkbox"/> Renewable Crediting Period (7 y) <input checked="" type="checkbox"/> Fixed Crediting Period (10 y)		
Start of crediting period of 1 st (real case) CPA	2013-02-01 or date of PoA registration		
Estimated tCO ₂ eq reductions of the 1 st CPA over the crediting period	Annual average	28,808 tCO ₂ e	
	Total estimation over the crediting period	288,080 tCO ₂ e	

2.2 Involved Parties, Coordinating / managing entity(ies), Project Participants of the PoA and operators of individual CPAs

The following parties to the Kyoto Protocol and project participants are involved in this PoA (Table 2-2).

Table 2-2: PoA Parties and project participants

	Name of Party/ies	Name of the Entity/ies	Private or Public	CME
Host Country/ies	South Africa	eThekweni Municipality	Public	<input checked="" type="checkbox"/>
Annex 1 Country/ies	-	-		

2.3 Characteristics of rcCPA

The details of the 1st (real case) CPA is (are listed) in table 2-3.

Table 2-3: Characteristics of rcCPA

No.	CPA Details
CPA No.:	01
CPA title:	eThekweni Municipality Residential Hot Water Efficiency Programme
CPA Host Country / Region:	South Africa
Operator / Implementer:	eThekweni Municipality
CPA location / address:	eThekweni Municipality – South Africa
Geographical coordinates:	29°53.761' S and 31°12.152' E (North, near Dolphin coast) 30°23.771' S and 30°75.347' E (South, near Scottburgh) 29°70.475' S and 30°58.319' E (West, near Cato Ridge)

2.4 Technical Programme Description

The small-scale Programme of Activities (henceforth referred to as PoA) is a programme for the installation of solar water heaters and heat pumps at residential facilities throughout South Africa. The Component Programme Activities (CPAs) will consist of Solar Water Heaters and Heat pumps of different capacities and makes as stated below:

- Low pressure solar water heaters installed in low income households and may also be installed in community residential units;

- High pressure solar water heaters installed in middle and high income households and in community residential units ;
- Heat pumps installed in middle and high income households and in community residential units.

The technical key data are provided in table 2-5 below based on an estimated rollout and using a certain make of solar water heater or heat pump for estimating emission reductions. However, this might change depending on the rollout of the solar water heaters and heat pumps and also depending on the type of solar water heater and/or heat pump installed^{/IM01/}.

Table 2-4: Technical data of the programme activity

Low Income Households and Community Solar Water Heaters:

Parameter	Unit	Value
Size of solar water heater	110	litres
Area per panel	1.2	m ²
Solar panel area total	4,800	m ²
Hot water outlet temperature (base and proposed case)	65	degrees C
Slope	45	Degrees
Azimuth	22	Degrees
Type	Evacuated	
Length of solar collector and assembly stand	1,700	mm
Width of solar collector and assembly stand	1,100	mm
Gross area per solar collector	0.2	m ²
Aperture area per solar collector	1.2	m ²
Fr (tau alpha) coefficient	0.5	(W/m ²)/°C
Fr UL coefficient	3.0	(W/m ²)/°C
Number of collectors	12.0	number
Storage capacity / solar collector area	7.6	litres/m ²

Middle & High Income Households Solar Water Heaters

Parameter	Unit	Value
Size of solar water heater	250	litres

Area per panel	3.3	m ²
Solar panel area total	52,960	m ²
Total hot water delivered to all units	3,200,000	litres
Size of solar water heater	250	litres
Slope	45	Degrees
Azimuth	22	Degrees
Length of solar collector and assembly stand	2,020	mm
Width of solar collector and assembly stand	2,240	mm
Gross area per solar collector	0.18	m ²
Aperture area per solar collector	3.3	m ²
Fr (tau alpha) coefficient	0.5	(W/m ²)/°C
Fr UL coefficient	3	(W/m ²)/°C
Storage capacity	250	litres
Number of collectors	25.0	number
Storage capacity / solar collector area	3.021	litres/m ²
Heat exchanger efficiency	80.0	percent
Miscellaneous losses	10.0	percent
Pump power / solar collector area	1.15	W/m ²
Number of Units	16,000	Number

Heat Pumps

Parameter	Unit	Value
Global Warming Potential	1,950	t CO ₂ /t refrigerant
Heat pump electric rating	0.85	kW
Number of heat pumps installed	2,000	number

3 METHODOLOGY AND VALIDATION SEQUENCE

3.1 Validation Steps

The validation of the PoA consisted of the following steps:

- Contract review
- Appointment of team members and technical reviewers
- Publication of the following programme documents:
 - the **CDM-PoA-DD (incl. generic CDM-CPA-DD)**
 - the **Real-Case CDM-CPA-DD**
- Desk review of the abovementioned PDDs and supporting documents
- Validation planning
- On-Site assessment
- Background investigation and follow-up interviews with personnel of the project developer and its contractors
- Draft validation reporting
- Resolution of corrective actions (if any)
- Final validation reporting
- Technical review
- Final approval of the validation

3.2 Contract review

To assure that

- the PoA falls within the scopes for which accreditation is held,
- the necessary competences to carry out the validation can be provided,
- Impartiality issues are clear and in line with the CDM accreditation requirements

a contract review was carried out before the contract was signed.

3.3 Appointment of team members and technical reviewers

On the basis of a competence analysis and individual availabilities, a validation team, consisting of one team leader and 2 additional team members, as well as the Technical Review personnel were appointed.

The list of involved personnel, the tasks assigned and the qualification status are summarized in the table 3-2 below.

Table 3-2: Involved Personnel

	Name	Company	Function ¹⁾	Qualification Status ²⁾	Scheme competence ³⁾	Technical competence ⁴⁾	Host country Competence	On-site visit
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Nikesh, R. S.	TUV NORD India	TL ^{A)}	LA	<input checked="" type="checkbox"/>	1.2; 3.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Grzegorz Kochaniewicz	TÜV NORD CERT GmbH	TM ^{A)}	A	<input checked="" type="checkbox"/>	1.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	G. Ezhilarasu	TUV NORD India	TM ^{A)}	LA	<input checked="" type="checkbox"/>	1.2; 3.1	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms.	Davinah Milenge Uwella	TÜV NORD CERT GmbH	OT	T	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	David Lubanga	TÜV NORD CERT GmbH	OR ^{B)}	A	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	-
<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms.	Rainer Winter	TÜV NORD CERT GmbH	TR/FA ^{B)}	SA	<input checked="" type="checkbox"/>	1.2.4; 3.1	<input type="checkbox"/>	-

¹⁾ TL: Team Leader; TM: Team Member, TR: Technical review; OT: Observer-Team, OR: Observer-TR; FA: Final approval

²⁾ GHG Auditor Status: A: Assessor; LA: Lead Assessor; SA: Senior Assessor; T: Trainee; TE: Technical Expert

³⁾ GHG auditor status (at least Assessor)

⁴⁾ As per S01-MU03 or S01-VA070-A2 (such as 1.1, 1.2, ...)

⁵⁾ In case of verification projects

^{A)} Team Member: GHG auditor (at least Assessor status), Technical Expert (incl. Host Country Expert or Verification Expert), not ETE

^{B)} No team member



All team members contributed to the review of documents, the assessment of the programme activity and to the preparation of this report under the leadership of the team leader.

Technical Experts contributed to the assessment of special aspects of the programme activity, e.g. technical or host country aspects.

In order to qualify further personnel the project team was accompanied by observers and/or trainees as indicated in the table above. They are usually not considered as team members.

Statements of competence for the above mentioned team members are enclosed in annex 8 of this report.

3.4 Consideration of Public Stakeholder Comments

Acc. to the modalities and procedures the draft PoA-DDs, as received from the project participants, have been made publicly available on the dedicated UNFCCC CDM website prior to the commencement of the validation activity. Stakeholders have been invited to comment on the PoA-DDs within the 30 days public commenting period.

In case comments are received, they are taken into account during the validation process. The comments and the discussion of the same are documented in annex 6 of this report.

3.5 Validation Protocol

In order to ensure consideration of all relevant assessment criteria, a validation protocol is used. The protocol shows, in a transparent manner, criteria and requirements, means of validation and the results from validating the identified criteria. The validation protocol reflects the generic CDM requirements each CDM project has to meet as well as PoA specific issues as applicable. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements that a CDM PoA is expected to meet;
- It ensures a transparent validation process where the validating entity will document how a particular requirement has been validated and the result of the determination.

The validation protocol is described in Figure 1.

Validation Protocol Table A-1: Requirement checklist				
Checklist Item	Reference	Validation Team Comment	Draft Conclusion	Final Conclusion
<i>The checklist items in Table A-1 are linked to the various requirements the project should meet. The checklist is organised in various sections. Each section is then further sub-divided as per the requirements of the topic and the individual project activity.</i>	<i>Gives reference to the information source on which the assessment is based on</i>	<i>The section is used to elaborate and discuss the checklist item in detail. It includes the assessment of the validation team and how the assessment was carried out. The reporting requirements of the VVS shall be covered in this section.</i>	<i>Assessment based on evidence provided if the criterion is fulfilled (OK), or a CAR, CL or FAR (see below) is raised. The assessment refers to the draft validation stage.</i>	<i>In case a corrective action or a clarification the final assessment at the final validation stage is given.</i>

Figure 1: Validation protocol table

The completed validation protocol is enclosed in Annex 1 to this report.

3.6 Review of Documents

The published PoA-DDs and supporting background documents related to the programme design and baseline were reviewed.

Furthermore, the validation team used additional documentation by third parties like host party legislation, technical reports referring to the project design or to the basic conditions and technical data.

3.7 Site Visit and Follow-up Interviews

The validation team has carried out a site visit in order to assess the information included in the project documentation and to gain additional information regarding the compliance of the PoA with the relevant criteria applicable for CDM.

During validation the validation team has performed interviews to confirm selected information and to resolve issues identified in the document review. The main topics of the interviews are summarized in table 3-3.

Table 3-3: Interviewed persons and interview topics

Interviewed Persons / Entities	Interview topics
Project proponent representatives Project consultant Government representatives Stakeholders	<ul style="list-style-type: none"> - Chronological description of the programme activity with documents of key steps of the implementation. - Current status of programme design - Technical details of the programme realization,



Interviewed Persons / Entities	Interview topics
	<p>programme feasibility, designing, operational life time, monitoring of the programme</p> <ul style="list-style-type: none"> - Host Government Approval - Approval procedures and status - Monitoring and measurement equipment and system. - Financial aspects - Crediting period - Programme activity starting date - CER allocation / ownership - Baseline study assumptions - Additionality - Sustainable development issues - Monitoring of CPAs - Analysis of local stakeholder consultation - Roles & responsibilities of the project participants w.r.t. project management, monitoring and reporting - National Legislation - Editorial issues of the PoA-DD and CPA-DD

A comprehensive list of all interviewed persons is part of section 7 'References'.

3.8 Project comparison

The validation team has compared the proposed CDM PoA with similar PoA or CDM projects or technologies that have similar or comparable characteristics and with similar projects in the host country in order to achieve additional information esp. regarding:

- Programme technology
- Additionality issues
- Reasons for reviews, requests for reviews and rejections within the CDM registration process.

3.9 Resolution of Clarification and Corrective Action Requests

3.9.1 Definition

A **Corrective Action Request (CAR)** will be established where:



- mistakes have been made in assumptions, application of the methodology or the programme documentation which will have a direct influence the programme results,
- the requirements deemed relevant for validation of the PoA with certain characteristics have not been met or
- there is a risk that the PoA would not be registered by the UNFCCC or that emission reductions would not be able to be verified and certified.

A **Clarification Request (CL)** will be issued where information is insufficient, unclear or not transparent enough to establish whether a requirement is met.

A **Forward Action Request (FAR)** will be issued when certain issues related to project implementation should be reviewed during the first verification.

3.9.2 Draft Validation Reporting

After reviewing all relevant documents and taking all other relevant information into account, the validation team issues all findings in the course of a draft validation report and hands this report over to the project proponent in order to respond on the issues raised and to revise the programme documentation accordingly.

3.9.3 Final Validation Reporting

The final validation starts after issuance of the proposed corrective action (CA) of the CARs, CLs and FARs by the project proponent. The project proponent has to reply on those and the requests are “closed out” by the validation team in case the response is assessed as sufficient. In case of raised FARs the project proponent has to respond on this, identifying the necessary actions to ensure that the topics raised in this finding are likely to be resolved at the latest during the first verification. The validation team has to assess whether the proposed action is adequate or not.

In case the findings from CARs and CLs cannot be resolved by the project proponent or the proposed action related to the FARs raised cannot be assessed as adequate, no positive validation opinion can be issued by the validation team.

The CAR(s) / CL(s) / FAR(s) are documented in chapter 4.

3.10 Technical review

Before submission of the final validation report a technical review of the whole validation procedure is carried out. The technical reviewer is a competent GHG auditor being appointed for the scope this PoA falls under. The technical reviewer is not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.



As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may be confirmed or revised. Furthermore reporting improvements might be achieved.

3.11 Final approval

After successful technical review of the final report an overall (esp. procedural) assessment of the complete validation will be carried out by a senior assessor located in the accredited premises of TÜV NORD.

Only after this step the request for registration can be started (in case of a positive validation opinion).

4 VALIDATION FINDINGS

In the following table the findings from the desk review of the published PoA-DD and generic CPA-DD, visits, interviews and supporting documents are summarised:

Table 4-1: Summary of CARs, CLs and FARs issued

Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
Part A: CDM-PoA-DD			
Description of project activity (PoA-A): <ul style="list-style-type: none"> - PoA and CPA specification - Technical PoA and CPA description - CPA Eligibility criteria - Project Participants Technologies and/or measures 	6	2	0
Application of selected approved baseline and monitoring methodology (PoA-B) <ul style="list-style-type: none"> - Application of the Methodology to the PoA and a typical CPA - Programme Boundary and locations - Baseline identification - Calculation of GHG emission reductions <ul style="list-style-type: none"> Project emissions Baseline emissions Leakage - Additionality determination of the PoA - Monitoring Methodology - Monitoring Plan - Project management planning 	3	2	0
Duration and Crediting Period of the PoA (PoA-C)	1	0	0
Environmental impacts (PoA-D)	1	0	0
Local Stakeholder Consultation (PoA-E)		0	0
Approval, Authorization and other aspects (PoA-F): <ul style="list-style-type: none"> - Letter of Approval - Contribution to sustainable development - MoC 	2	0	0



Validation topic ¹⁾	No. of CAR	No. of CL	No. of FAR
- PoA-DD editorial aspects			
Part B: Generic CDM-CPA-DD			
Overall Consistency with finalized PoA-DD			
General description of the CPA (CPA-A) - Responsible entity/individual for the CPA - Identification and description of the CPA - Technical description of the CPA	0	0	0
Eligibility of CPA and Estimation of Emission Reductions (CPA-B) - CPA reference to the PoA - Justification to CPA inclusion eligibility criteria - Demonstration of CPA additionality - Confirmation of CPA boundary - CPA Emission Reduction - CPA Monitoring Plan	9	3	0
Duration and Crediting Period of the CPA (CPA-C)	0	0	0
Environmental impacts (CPA-D)	0	0	0
Local Stakeholder Consultation (CPA-E)	0	1	0
SUM	22	8	0

¹⁾ The letters in brackets refer to the validation protocol

The following tables include all raised CARs, CLs and FARs. For an in depth evaluation of all validation items it should be referred to the validation protocols (see Annex 1).

The findings of validation process are summarized in the tables below.

Finding	PoA-A1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	PoA-A1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The categories of implemented framework for PoA are not clearly described. 2. The allocation of categories to income groups is not clear. 3. The general description of applied discounts, rebate charges and sources of financing are not clear. 4. The description of implementation of project activity in existing as well as new residential units was missing. 5. The description of social contribution to sustainable development is not clear in regards to reduction of dependence from fossil fuels. <p>Associated checklist question(s): A.1.1; A.3.5-A.3.6.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. The categories of the implemented framework for the PoA have been clarified. The low income households, community residential units and middle and high income households have been defined in more detail in the PoA-DD. 2. The income of the community residential units, low, middle and high income households has been clarified and is in line with the Department of Energy's Solar Water Heating High Level Strategic Framework. 3. The description of applied discounts and sources of financing have been made clear in the description of the implementing framework for the household categories. 4. The PoA allows for solar water heaters to be installed in existing and new low income households. The PoA allows for solar water heaters or heat pumps to be installed in existing community residential units, middle and high income households. The PoA does not allow for solar water heaters or heat pumps to be installed in new community residential units, middle and high income households. See PoA-DD for more detail. 5. The PoA-DD and CPA-DD have been amended and the reference to fossil fuels has been removed. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:



Finding	PoA-A1								
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD						
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<div><div>1. The categories of the implemented framework for the PoA have been improved in PoA-DD version 02. It clearly explains the composition of each category, namely: Low Income Households, Community Residential Units, and Middle and High Income Households. The category differentiation is by household income. The PoA-DD contains clear information on what technologies will be installed in each category and the baseline technology to enable monitoring of each category. The finding is closed.</div><div>2. The household income for each category was elaborated and referenced in PoA-DD version 02. This was cross-checked against host country statistics^{/SA/}. The finding is closed.</div><div>3. The description of applied discounts through Eskom rebate in PoA-DD version 02 is discussed in Additionality not under the implementation framework. The finding remains open.</div><div>4. The revised PoA-DD makes a clear distinction of project implementation in existing and new residential facilities as noted in the PP’s comment above.</div><div>5. Appropriate changes were made to PoA-DD version 02 as noted in the PP’s comments above. The finding is closed.</div></div>								
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<div>We have included the description of the Eskom rebates under implementation framework in addition to under additionality.</div> <table><tr><td><input checked="" type="checkbox"/> Changes in PDD:</td><td>Section(s): A</td><td>New version No.: 03</td></tr><tr><td><input type="checkbox"/> Changes in XLS</td><td>Worksheet(s):</td><td>New version No.:</td></tr></table>			<input checked="" type="checkbox"/> Changes in PDD:	Section(s): A	New version No.: 03	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Changes in PDD:	Section(s): A	New version No.: 03							
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:							
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<div>PoA-DD version 03 includes details of the ESKOM rebate facility under the ESKOM Demand Side Programme this improves the clarity of the PoA implementation framework. The finding is closed.</div>								
Conclusion <i>Tick the appropriate checkbox</i>	<div><input type="checkbox"/> To be checked during the first periodic verification</div> <div><input type="checkbox"/> Additional action should be taken (finding remains open)</div> <div><input checked="" type="checkbox"/> The finding is closed</div>								

Finding	PoA-A2
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Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>1. The design criteria for heat pumps were not defined.</p> <p>2. The choice of suppliers and tech details of SWH units and pumps was not described.</p> <p>3. Evidence: Eskom documents for subsidy details were not provided.</p> <p>Associated checklist question(s): A.1.3-A.3.2.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>1. The technologies are described in more detail in Section A.6. Please see this section for a description of the design criteria for the heat pumps.</p> <p>2. The installers that have been pre-selected by the CME will be updated on an on-going basis. We have disclosed the names of installers that have been pre-selected in the PoA document currently. Please note that this may change in future.</p> <p>3. The Eskom documents have been sent to the DOE.</p>		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. PoA-DD version 02 was improved with technical details of the heat pumps to be deployed in the project activity. The installed heat pumps will have to be certified by the host country Bureau of Standards (SABS). The finding is closed</p> <p>2. A pre-selected list of SWH installers has been added to the revised PoA-DD. Installers are approved by the CME. The finding is closed.</p> <p>3. Eskom documents detailing the rebate system have been provided /ESKOM/. The finding is closed.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>		

Finding	PoA-A3		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Description of structure of CME is missing/not clear.</p> <p>Associated checklist question(s): A.1.5; B.7.1.1.; B.7.1.2.; B.7.1.5; B.7.1.6.</p>		



Finding	PoA-A3		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The structure of the CME has been described in more detail in the PoA-DD (Section A.2.). The eThekweni Municipality is the CME for the PoA. The Energy Office in the eThekweni Municipality will be responsible for operating the PoA. The implementing frameworks for each household type or category has been described in more detail in the PoA-DD.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.:02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The CME role and responsibilities have been included in the revised PoA-DD version 02. However the management system detailed is not in line with the guidance "Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" ^{*/EB 65 Annex 3/} . The finding remains open.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The management system has been updated to also include the following: <ul style="list-style-type: none"> • A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies • Records of arrangements for training and capacity development for personnel • Procedures for technical review of inclusion of CPAs • Measures for continuous improvements of the PoA management system 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The PoA management system is described in the PoA-DD version 03 as stated above. This was assessed and found in line with the PoA Standard ^{/EB 65 Annex 3/} . The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-A4		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR

Finding	PoA-A4		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The possible use of decommissioned tanks and geysers fitted with electrical heating elements was not provided. 2. The figures for integrated and split system were not provided 3. The baseline for low income / communities where there is no grid availability was not defined <p>Associated checklist question(s): A.1.3.; A.1.4.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. With the installation of a new solar water heater or heat pump, Eskom requires that the old electric element is permanently disconnected. This is a requirement to access the Eskom rebate. Hence, the electric element is disconnected as part of the installation of units at households with existing electric elements. This means that the electric geyser cannot be used. The electric element is replaced by the heat exchanger of the heat pump or the solar energy from the sun. The electric element is disconnected and this must be checked at the installation inspection. 2. The CPA contains an example of the number of different units that could be installed in the CPA. All different types of solar water heaters and heat pumps can be installed under this PoA. The CPA specifies or provides an example of the type of units to be installed under the CPA. This will depend on a number of factors such as market demand, selection of low income area and community residential unit. 3. The households are grid-connected and use grid electricity to heat water (electric stoves or kettles). Hence, the baseline is grid electricity for the PoA. All households where solar water heaters or heat pumps are installed must be grid-connected. This is an Eskom requirement and is needed in order to be part of a CPA under this PoA. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. It is explained in the revised PoA-DD version 02 that baseline geysers need to have their heating elements permanently disconnected, as it is a requirement to qualify for Eskom rebate. The finding is closed. 2. Under the eligibility criteria for CPA inclusion different types of SWH and heat pumps will be installed based on local conditions as long as they qualify as per CME conditions and the CPA meets SSC limit. The finding is closed. 3. The PoA-DD version 02 was improved with a clear qualification that only grid connected households are eligible. The finding is closed. 		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		



Finding	PoA-A5		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Geo co-ordinates were not provided as per requirements. Associated checklist question(s): A.3.1.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	GPS co-ordinates of the boundary of the first CPA have been provided. These are the co-ordinates of the eThekweni Municipality.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. CPA-DD version 02 includes GPS co-ordinates in Section A.7. which improves the Geographical reference of CPA1. However the municipality map (figure 9) is not as per description and hence it does not allow for unique identifications. The finding remains open.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	A new map has been provided for the Municipal Area which is clearer and matches the GPS coordinates provided in the CPA.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.: 04
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	CPA1-DD version 04 has been updated with a geographical map of eThekweni municipality which is the geographical boundary of the CPA. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-A6		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD



Finding	PoA-A6		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. No use of paraffin or fossil fuels in the baseline was witnessed. 2. Reference for penetration of market by the technology was not described. 3. Details of technologies were not provided. <p>Associated checklist question(s): B.4.5</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. The use of fossil fuels has been removed from the PoA and CPA as the baseline for all household types is the use of grid electricity. 2. The reference for penetration of the market by technologies has now been described. 3. The details of the technologies have been provided in the updated PoA-DD and CPA-DD. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A, C Part II B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. Use of paraffin in the baseline was removed from PoA-DD version 02. The finding is closed. 2. Market penetration of project technologies is described clearly in the revised PoA-DD. The finding is closed. 3. Technology details as well as visual presentation of types of technologies to be installed have been included in PoA-DD version 02 and CPA DD version 02. The finding is closed. 		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-A7		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The SABS standard for applied technology was not provided. <p>Associated checklist question(s): A.3.7.; A.3.8.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is</i>	<ol style="list-style-type: none"> 1. The SABS standards have been provided for the technologies installed. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): B	New version No.: 02



Finding	PoA-A7		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
<i>requested to indicate the revised sections as well as the new version No.</i>	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The revised PoA-DD includes South Africa Bureau of Standards specifications for heat pumps and solar water heating systems. Furthermore to benefit from the Eskom rebate the solar water heaters and heat pumps should have a SABS approval seal ^{/ESKOM/} . The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-A8		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. List of any identified suppliers/contractors referred to in electronic database PoA-DD Section C was not provided. Associated checklist question(s): A.4.5.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. A list of identified/pre-approved installers has been included in the PoA. This list is subject to change as the CME will continue revising and updating the list.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A	New version No.:02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The revised PoA-DD includes a list of pre-selected suppliers/contractors /installers. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-B1		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	PoA-B1		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. The exclusion of non Eskom power generation in the calculation of GEF was not justified. Associated checklist question(s): B.6.2.-B.6.4.; B.7.2.1. – B.7.2.2.; B.7.2.4. – B.7.2.6. B.7.2.7. – B.7.2.10		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. The emission factor has been corrected to include non-Eskom power generation. Please see updated PoA-DD for the new calculation of the emission factor.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 02
	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): All	New version No.: 02
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. The choice of Option under Step 4 of the <i>Tool to calculate the emission factor for an electricity system</i> ver 02.2.1. is not explained and justified in a systematic manner. 2. Eskom publishes calorific values for kerosene and coal, the use of IPCC default values it is not explained. 3. The claim that Eskom data is unreliable (PoA-DD version 02 Appendix 4) contradicts the use of Eskom data for power plant generation and fuel consumption (which is 95% of plants supplying South African grid). 4. It is not explained why Option A1 was applied in the calculation of CO₂ emission factor of each power plant unit whilst the Tool states that “if power plants included in the build margin (SETsample-CDM->10years then only A2 option should be used”. Table 9 includes plants older than 10 years. 5. The “first build margin” and “second build margin” are not explained. 		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. The choice of option under step 4 has been explained and justified. 2. Eskom publishes values for coal which have been used. These values are sourced from Eskom’s annual report. Eskom does not publish values for kerosene so we have used the IPCC default values. 3. We have removed this statement. The Eskom data is reliable. 4. We have used option A2. 5. We have removed the reference to the two build margins. Please see updated grid emission factor calculation. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s) Part II B	New Version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s) All	New Vision No.: 03



Finding	PoA-B1		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	PoA-DD version 03 generic CPA-DD: All issues raised were dealt with. The calculation of the grid emission factor for South Africa is developed in a stepwise approach in line with the "Tool to calculate the emission factor for an electricity system" Version 02.2.1. The Build Margin and Operating Margin are calculated in a traceable manner and the calculation is considered conservative basing on host country knowledge. The finding is closed. However CPA1-DD version 03 does not include the grid emission calculation. The finding remains open.		
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The grid emission factor calculation has been included in CPA-DD version 04 in the annexure.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s) Appendix 4	New Version No.: 04
	<input type="checkbox"/> Changes in XLS	Worksheet(s)	New Vision No.:
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	CPA1-DD version 04 in Appendix 4 includes the grid emission factor determination. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-B2		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The acceptance from UNFCCC for combinations of AMS I J and AMS II C is not clear. 2. The combination of different technologies in the same CPA was not described/clear. Associated checklist question(s): A.2.4. - A.3.7. – A.3.8.; B.2.3.		

Finding	PoA-B2		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>1. Since two methodologies are applied in the same PoA, the 'Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)' was applied. The standard is applicable to CMEs seeking to apply multiple technologies or approved methodologies. A combination of methodologies can be applied if it can be demonstrated that there is no cross effect between technologies installed and that the policy or goal of the PoA can only be reached through the use of multiple methodologies. The objective of this PoA is to improve energy efficiency in domestic water heating. This can only be achieved through the installation of heat pumps or/and solar water heaters in existing residential buildings and new low income households. To exclude one of the two technologies would mean that the PoA would not achieve this objective. The selection of technology for the household is dependent on the suitability of the technology for the household. The standard specifically mentions combinations of categories such as energy generation and energy efficiency. This PoA is focused on the category of water heating and each CPA will make use of both of the specified methodologies.</p> <p>2. Each CPA will cover both the installation of solar water heaters and heat pumps. Only one unit can be installed per household.</p>		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): B	New version No.:02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. The use of multiple methodologies in this PoA is applicable under EB 65 Annex 3 paragraph 29 (d). The finding is closed.</p> <p>2. PoA-DD version 02 is clear about technologies that will be deployed in each CPA. The finding is closed.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-B3		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The definition of SSC threshold for each CPA and the maximal number of SWH or/and pumps for reaching the threshold was not clear.</p> <p>Associated checklist question(s): A.2.2. – A.2.3.; B.2.1.; B.2.1.</p>		

Finding	PoA-B3		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The definition of SSC threshold has been clarified.		
	<input checked="" type="checkbox"/> Changes in PDD <input type="checkbox"/> Changes in XLS	Section(s): C Worksheet(s):	New version No.:02 New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The revised PoA-DD includes a demonstration of SSC limit for each technology deployed in each CPA. Under the applied SSC methodology SSC limit is solar collector area of about 64,000m ² /METH/. Ex-ante calculation estimate installation of 4000 low income geysers (100liters) and 2000 middle & high income (200liters) at m ² collector area which together the total collector area is 25,840m ² . Eskom estimates that a SWH of 150liter capacity saves 4.5kWh/day ^{/ESKOM/} . Which is 0.0016425 GWh/year*6000 = 9.855GWh/year for each CPA. For the heat pumps, electricity saving was also demonstrably below the applied methodology criterion on SSC threshold (60 GWh/year). With 6550 heat pumps installed in a CPA the total energy saving is estimated at 26720Mwh/yr. This was cross-checked against the national power utility Eskom data ^{/ESKOM/} which gives annual saving as 4,288kWh, hence total saving as 28086MWh/yr which is below the threshold limit of the applied methodology. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-B4		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. Additionality was not demonstrated by using guidance EB 35. Annex 34. 2. The generic statement about the customer confusion etc doesn't allow common reader to understand the applicability of the presented barrier. 3. Additionality supporting documents were not referenced. <p>Associated checklist question(s): B.5.1.1.; B.5.2.1.</p>		

Finding	PoA-B4		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. Additionality has been demonstrated using guidance EB 35 Annex 34 2. The generic statement about customer confusion has been removed. 3. The additionality section has been properly referenced.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): B	New version No.:02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The PoA-DD version 02 was appropriately revised as stated by the PP's comments above. Further, the project activity qualifies as additional under EB68 Annex 27, paragraph 2(c) since it comprises of isolated units where users are households where each unit is below 5% of the small scale threshold. The finding is closed. 2. The mentioned statement was removed from PoA-DD version 02. The finding is closed. 3. Justification of additionality has been properly referenced in the revised PoA-DD. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-B5		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The applicability of retrofitting under different project scenario was not consistent described in the PoA-DD and real case CPADD. Associated checklist question(s): A.3.2.; B.2.1.; B.2.4.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The definition of retrofitting has been changed and is in line with the definition of retrofitting in the methodology.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): A, C, Part II B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	PoA-DD version 02 includes a clear clarification on what is considered "retrofit" and "new construction" in the SWH activities. The finding is closed.		

Finding	PoA-B5		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-C1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The starting date is not in line with CDM requirements. Associated checklist question(s): A.3.5. – A.3.6.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The start date is the date of publication of the PoA-DD for global stakeholder consultation, which was on 28/06/2012. The starting date of each CPA has been clarified and is the earliest date at which real action occurs in accordance with the CDM glossary of terms and is that date at which the order is placed for the first unit to be installed under the CPA.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): B	New version No.:02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The PoA start date, as the date of publication for global stakeholder consultation was define in line with Clean development mechanism project standard. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-D1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Reference of host country regulations regarding EIA clearance was not included in PoA-DD. Associated checklist question(s): D.1.1. – D.1.5.		

Finding	PoA-D1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	We have provided proof that an EIA is not required in accordance with the national EIA regulations. Please see updated sections.		
	<input type="checkbox"/> Changes in PDD	Section(s): D	New version No.:02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The National Environmental Management Act (NEMA) of 2010 does not require the project activity to undertake EIA. The reference is included in PoA-DD version 02. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-F1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Letter of approval for PoA from host country was not provided yet. 2. MOC for PoA was not provided yet. Associated checklist question(s): 1) F.3.1. – F.3.4. 2) F.2.1-F.2.7; F.2.9.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. The Letter of Approval will be sent to the DOE when it has been received. 2. The MoC for the PoA has been provided to the DOE.		
	<input type="checkbox"/> Changes in PDD	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:



Finding	PoA-F1		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. The Letter of Approval (HCA) dated 2012-09-12^{HCA} has been verified which indicates that the project meets the host country and sustainable development criteria requirements. From the verification of HCA the following is conformed</p> <ul style="list-style-type: none"> The approval is issued by the Energy department Republic of South Africa which is listed in the UNFCCC website as the DNA in South Africa. This is conformed through the website http://cdm.unfccc.int/DNA/view.html. The HCA letter confirms that Republic of South Africa has ratified the Kyoto Protocol. The HCA letter confirms that the project participation is a voluntary action. The HCA letter confirms that the project contributes to the sustainable development in the country The project title in the HCA is "Residential Hot water Efficiency Programme in South Africa" and matches with the project title mentioned in A.1 of the PoA-DD. The written approval with regard to F.1.1 to F.1.10 of table A-1 checklist is unconditional. <p>The finding is closed</p> <p>2. The MoC signed by the PP dated 2012-08-17 has been verified and accepted which meets the table A-1 checklist F.3.1 to F.3.4</p> <ul style="list-style-type: none"> The MoC was received from Deloitte, on behalf of eThekwin Municipality, the CME with validation contract with DOE. The MoC was sign by representatives of project participant eThekwin. Validation team directly contacted the signatories to confirm the authenticity moreover one of the signatories is personally known to validation team and his corporate and persona identity was confirmed during onsite visit. The latest MoC template version 02.0 was used and all sections were correctly completed. The sole signatories of the MoC represent the EtheKwin Municipality that is the CME of the PoA as per PoADD. <p>The finding is closed.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	PoA-F2		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	PoA-F2		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Description of finding Describe the finding in unambiguous style; address the context (e.g. section)	<ol style="list-style-type: none"> 1. Not all Source / ref for statements in the PoA and CPA DD were provided. 2. Not all web links are working. Not all latest tools and guidance were used, eg Non binding best practice examples (EB 35 Annex 34) was not referenced. 3. Consistent fonts and size to be used in the PoA DD and CPA DD 4. Appendix is not filled completely. <p>Associated checklist question(s): F.3.2; C.1.2.</p>		
Corrective Action #1 This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.	<ol style="list-style-type: none"> 1. The statements in the PoA and CPA have all been referenced 2. All weblinks have been checked and are now working 3. All the latest tools and guidance have been used like non-binding best practice 4. Fonts and sizes are consistent 5. Appendices are completed 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): All	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.	<ol style="list-style-type: none"> 1. Referencing in the PoA-DD has improved. 2. Weblinks are working 3. The tools have been referenced. However the version of AMS.II.C is not the latest. Finding remains open. 4. Font size is consistent in the PoA-DD text 5. Appendices are complete. 		
Corrective Action #2 This section shall be filled by the PP. It shall address the corrective action taken in details	<p>The last version of AMS II.C. is applicable for project submitting for registration until April 2013. As such, we started validation with this version and would like to finalise validation using version 13 as we plan on submitting the project before April 2013 for registration.</p>		
	<input type="checkbox"/> Changes in PDD	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #2 The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.	<p>The AMS II C version 13 has a grace period till April 2013 and the same is applicable to the project activity. Finding is closed.</p> <p>Also note the following:</p> <ol style="list-style-type: none"> 1. The Referencing method in both PoA-DD and CPA1-DD is not correct, e.g. almost each sentence has a reference of the same source. 2. The PoA-DD and CPA1-DD include a lot of repeated information. 3. Operational lifetime of CPA is not stated in years and months. 		



Finding	PoA-F2		
Related DDs	<input checked="" type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details</i>	<p>1. The referencing has been streamlined so that the same reference is only used once on a page.</p> <p>2. Repeated information has been removed where possible from the PoA and CPA.</p> <p>3. Operational lifetime is stated as 10 years and 0 months.</p>		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): All	New version No.: 04
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1 and 2. The required corrections have been made in PoA-DD version 04 and CPA1-DD version 04. The finding is closed.</p> <p>3. Operational lifetime is stated correctly. Validation team crscheck the information provided wiht publicly available cources. Technical lifetime of equipment is over 15 years^{/TECH/}</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>		

Finding	CPA-B1		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>1. List of Eskom database for end-users was not submitted. Sample electricity bills end-users to confirm domestic use and grid-connection were not provided.</p> <p>Associated checklist question(s): A.3.5.; A.3.6.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>1. The installer will ensure that each household under the PoA is grid-connected. In addition, at the time of installation of the solar water heater or heat pump, the electricity account number is recorded on the Eskom rebate form. This ensures that the household (domestic/residential) was grid-connected and was using Eskom electricity. The account numbers and confirmation that the households are grid-connected will only be provided when the installer does the site visit and cannot be provided at this stage. This will be provided for verification of the first CPA.</p>		
	<input type="checkbox"/> Changes in PDD	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. To qualify for Eskom rebate, the household has to state its electricity account number which is unique to the households. Therefore, it is in the interest of the installer and PP to ensure that the household is grid-connected. The finding is closed.</p>		



Finding	CPA-B1		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B2								
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD						
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR						
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> The applicability criterion 1 of AMS II.C was not justified as per methodology. The applicability criterion 2 of <u>AMS II.C</u> was not evidenced. The applicability criterion 3 of <u>AMS II.C</u>, the possible use of global warming refrigerant was not traceable in ER calculation. The applicability criterion 3 of <u>AMS II.C</u>, the crediting “of emission reductions only due to the reduction in electricity consumption from use of more efficient equipment/appliances” was not described and justified. <p>Associated checklist question(s): B.2.1.; B.2.4.</p>								
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> The adherence to the applicability criterion 1 has been justified as per the methodology. Please see updated PoA-DD. The adherence to applicability criterion 2 has been evidenced. The calculations for the use of a refrigerant with a global warming potential are provided in the documents (PoA-DD and CPA-DD) We have described and justified the “of emission reductions only due to the reduction in electricity consumption from use of more efficient equipment/appliances” <table border="1"> <tr> <td><input checked="" type="checkbox"/> Changes in PDD</td> <td>Section(s):</td> <td>New version No.: 02</td> </tr> <tr> <td><input type="checkbox"/> Changes in XLS</td> <td>Worksheet(s):</td> <td>New version No.:</td> </tr> </table>			<input checked="" type="checkbox"/> Changes in PDD	Section(s):	New version No.: 02	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
<input checked="" type="checkbox"/> Changes in PDD	Section(s):	New version No.: 02							
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:							
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> Applicability criterion 1 was adequately justified in PoA-DD version 02. The finding is closed. Applicability criterion 2 was adequately justified in PoA-DD version 02. The finding is closed. Applicability criterion 3 was adequately justified in PoA-DD version 02. The finding is closed. Applicability criterion 3 was improved with explanation that project emissions from refrigerants will be accounted in ER calculation. The finding is closed. 								
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed								



Finding	CPA-B3		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Calculation of the saving for each heat pump is not traceable. Associated checklist question(s): B.6.1.; B.6.3.; B.6.4.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The calculation procedure and the calculation of the saving for each heat pump have been changed in the generic CPA-DD and real case CPA-DD.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):heat pumps	New version No.: 01
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The heat pump ER calculation in the revised PoA-DD Part II does not follow methodological steps outlined in the applied methodology. No justification is given for the choices selected. The finding remains open.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The calculation follows the methodological steps and is in line with the methodology. The choices are explained in more detail. Note that we have selected to use Version 13 of the methodology as opposed to the new version as Version 13 is applicable for projects applying for registration up until April 2013 and was available at the time of on-site validation.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: PoA-DD03; CPA1-DD 03
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Community Residential Units HP, Middle and High HP	New version No.:03
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. Methodological AMS II C version 13 steps are followed in revised PoA-DD version 03 and CPA1-DD version 03. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B4		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	CPA-B4		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The approach for the emission reduction calculation of heat pumps is not in line with paragraph 6 of AMS IIC ver. 13. 2. The inclusion of parameter is not as per ER calculation 3. Emissions reduction calculation with supporting documents was not provided. <p>Associated checklist question(s): B.6.1. – B.6.4; B.7.2.1.; B.7.2.2.; B.7.2.7; B.7.2.8. – B.7.2.10</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. The approach for the calculation of the emission reductions for heat pumps has been changed to be in line with AMS II.C. version 13. 2. The inclusion of parameters has been updated to be in line with the emission reduction calculation. 3. The emission reduction calculation supporting documents have been provided. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 02
	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Community Residential Units HP, Middle and High HP	New version No.: 02
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. The ER calculation in PoA-DD ver 02 Part II (generic CPA-DD) does not explain the choice taken from the options given in the applied methodology (paragraph 6). The equations applied the CPA-DD do not enable the reader to reproduce the calculation. The finding remains open. 2. Not all ex-ante estimation for parameters for option 1 are given. Further those given have no values (GWP_{refPJ}; o_i). Finding remains open. 3. No evidences for the ER calculation are given. Finding remains open. 4. The ER calculation does not take into account lag time and non-functioning heat pumps. 		



Finding	CPA-B4		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. The ER calculation has been made more transparent and the reader should be able to reproduce the calculation. 2. All parameters required for ex-ante estimation of emission reductions have been included. Please note that the two parameters mentioned above have not been given values. The reason that GWP_{refPJ} has not been given a value as it depends on the type of refrigerant that is used in the heat pump. There are many different types. As such, we have allowed for all different types and the GWPs must be selected from the IPCC list of greenhouse gases. In terms of o_i, the CPA implementer can select the operating hours from literature values or measurements for the baseline. We have not included a value as the CPA implementer can select their own value which will be checked by the CME. The value must be sourced from literature or from a measurement campaign done or coordinated by the CPA implementer. 3. We are not sure what is meant by evidences. All the sources of values are referenced or come from the methodology or from manufacturer's specifications. Can you elaborate on what is required? We have made the input parameters used in the calculation of the emission reductions for the real case CPA-DD more traceable. 4. We have amended the PoA-DD to take into account the non-functioning heat pumps and solar water heaters. What is meant by lag time and what is required from us here? 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 03
	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Community Residential Units HP, Middle and High HP	New version No.:03
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. The ER calculation for the heat pumps in PoA-DD ver 03 and CPA1-DD version 03 follows formulas stated in the applied methodology and options taken are explained. The finding is closed. 2. To enable traceable ex-ante calculation, parameters included in the calculation does not apply value estimates from reliable sources. The finding remains open. 3. Same as 2 above, the source of values for parameters applied in the ER calculation is not given. The finding remains open 4. To conservatively calculate operational days for each technology, counting of emission reductions days should not begin on day of installation. The finding remains open. 		



Finding	CPA-B4		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #3 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. Closed. 2. The values all have independent sources that are referenced. All references are working 3. The sources of the values for parameters applied in the ER calculation are provided in the updated CPA. 4. The calculation of the emission reductions starts from the day of the inspection that must occur within three months of installation. This allows for the conservative calculation of operational days. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B, CPA1-DD: B	New version No.: 04
	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Community Residential Units HP, Middle and High HP	New version No.:04
DOE Assessment #3 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. Closed 2. CPA1-DD version 04 and XLS version 04 include references of data sources for the values applied in the ER calculation. The sources are either national data or manufacturer specifications. 3. All values for parameters included in ex-ante calculation are included in revised CPA-DD and XLS. 4. Ex-ante ER estimation commences on day of installation with the assumption that all HP will be operational in the first year. However as indicated above, the PP clarifies that for ex-post ER calculation, emission reductions will be calculated from the date of 1st inspection within three months of installation. Since the monitoring arrangements make it possible to determine when the inspection was performed, the calculation of ER from date of inspection is satisfactory. 		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B5		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR



Finding	CPA-B5		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> Only one option is to be selected for ER calculation for the project. The choice of Model based method for low income SWH is not explained. There are no estimations for input parameters for the model based method; hence the ex-ante ER calculation cannot be assessed as conservative. The use of the value of 450kWh/year/m² in the ER Excel calculation is not justified. <p>Associated checklist question(s): B.6.1. – B.6.5; B.7.2.1.-B.7.2.2.; B.7.2.7. – B.7.2.10.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> We have amended the document to only use the model-based approach. Estimates have been provided for the input parameters in the calculation spreadsheet as this is relevant to the real case CPA-DD. The value comes from AMS I.J. However, this has been removed as we are not using the stipulated energy savings approach anymore. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B, CPA1-DD B	New version No.: 03
	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Community Residential Units SWH, Low Income Households SWH, Middle and High SWH	New version No.:03
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> The revised PoA-DD version 03 and CPA1-DD version 03 has chosen the Model Based Method for ER calculation for all project equipment. However the parameters inputs do not follow the requirements of the applied methodology. Only two parameters have values estimated ex-ante. This is not in line with the applied methodology. The PoA-DD and CPA-DD do not include the output generated by the computerized simulation model. 		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> The input parameters are in line with the applied methodology. Please see updated PoA-DD and CPA-DD for more detail. The parameters estimated ex-ante have been updated in line with the applied methodology. The PoA-DD and the CPA-DD now include the model output parameters. See update versions of the documents. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B, CPA1-DD B	New version No.: 04



Finding	CPA-B5		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input type="checkbox"/> real case CPA-DD
	<input checked="" type="checkbox"/> Changes in XLS	Worksheet(s): Community Residential Units SWH, Low Income Households SWH, Middle and High SWH	New version No.:04
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. Generic CPA-DD version 04 and CPA1-DD version 04 include input parameters as required by model base method of the applied methodology. The finding is closed. 2. Same as above. The finding is closed. 3. The values generated by the model for baseline and project consumption of solar water heaters resulted into less ER as indicated in CPA1-DD version 04 and XLS 03 ($ER_{SWH,y} = 9,749 \text{ t CO}_2$ compared to $10,255 \text{ t CO}_2$ of the previous XLS version). The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B6		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Sampling plan is not as per requirements of EB 65 annex 2 and calculation approach is not clear as per EB 66 requirements. Associated checklist question(s): B.7.2.1. – B.7.2.2.; B.7.2.7. – B.7.2.10		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. The sampling plan has been updated to meet the requirements of EB 65 Annex 2 and EB 66.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B.7.2.	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The sampling plan has been updated in the revised PoA-DD. However it does not include a description of the sampling approach, assumptions and justifications for the selected sample method. 2. It is not explained why the sample size for both the heat pump and SWH is the same when not the same amount of both technologies is installed. 3. The sample equation is not explained. Finding remains open.		



Finding	CPA-B6		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. We have described the sampling approach, assumptions and justifications in more detail. 2. The sample size for checking whether solar water heaters and heat pumps are operational is the same for both solar water heaters and heat pumps irrespective of the number installed. This is the result of the sampling equation used which reaches a maximum at 68 units to be checked a year. We have been conservative in allowing for 100 units to be checked annually. 3. We have explained the sample equation in more detail. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B.7.2.	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. The sampling arrangement has been improved in PoA-DD version 03 and CPA1-DD version 03 with sampling approach, assumptions and justifications which are in line with the requirements of the sampling guidance (EB 69 Annex 5). The finding is closed. 2. 100 samples will be taken for both the heat pumps and the solar water heaters. Further if there are insufficient sites within a single category then all the sites in this category will be checked to confirm that the systems are operating. This is considered conservative. The finding is closed. 3. Details for the sampling equations are given in PoA-DD version 03 and CPA1-DD version 03. The finding is closed. 		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B7		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<ol style="list-style-type: none"> 1. The disposal of baseline geysers and leakage due to the same is not defined in the PoA DD and CPA DD. Associated checklist question(s): B.7.2.1; B.7.2.2.; B.7.2.7. – B.7.2.10.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<ol style="list-style-type: none"> 1. With the installation of a new solar water heater or heat pump, Eskom requires that the old electric element is disconnected. This is a requirement to access the Eskom rebate. Hence, the electric element is permanently disconnected as part of the installation of units at households with existing electric elements. This means that the electric geyser cannot be used. The electric element is replaced by the heat exchanger of the heat pump or the solar energy from the sun. The electric element is permanently disconnected and this must be checked at the installation inspection. 		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 02

Finding	CPA-B7		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. As an Eskom requirement, the baseline geyser electric element has to be disconnected at the installation of the SWH. The applied methodology requires that if baseline equipment is not destroyed, leakage is to be considered. However leakage is not included among monitored parameters in PoA-DD version 02. The finding remains open.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	We have included leakage in parameters to be monitored.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s):	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	Monitoring of leakage is included in both PoA-DD version 03 and CPA1-DD version 03. The monitoring plan includes checking if the electric element of the baseline geyser was disconnected and it is not working. In case the electric element will be found functional the no emissions reduction will be claimed for the unit to account for the leakage. The procedure was described in the PoA DD version 5. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B8		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. The rule of DOE in the annual check of GEF is not clear. Associated checklist question(s): B.6.5.; B.7.2.7. – B.7.2.11.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. The reference to the annual check of the GEF was removed from the documentation.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:



Finding	CPA-B8		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The statement has been removed from the revised generic CPA-DD and CPA1-DD. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B9		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	1. Some of the ex-ante monitoring parameters for heat pumps are missing. 2. The use of AMS II K was not clarified Associated checklist question(s): B.6.5.; B.7.2.1.; B.7.2.2.; B.7.2.7. – B.7.2.11.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	1. The ex-ante monitoring parameters for heat pumps have been updated. 2. The use of AMS II.K. has been removed.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s):Part II B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. The monitoring of non-metered systems (applied methodology para 14) is not explained. The finding remains open. 2. Reference to AMS. II.K. was removed from PoA-DD version 02. The finding is closed.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	The monitoring of non-metered systems has been included in parameters to be monitored.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s):Part II B	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:



Finding	CPA-B9		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	PoA-DD version 03 and CPA1-DD version 03 include under B.7.2 includes monitoring arrangements for non-metered heat pumps using sampling confidence interval of 90% at 10% margin of error. This is in line with monitoring requirements of the applied methodology. The finding is closed		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B10		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The monitoring of generation and consumption of hot water used in the project activity as per applicability of <u>AMS I.J clause 5</u> is not clear. Associated checklist question(s): B.6.5.; B.7.2.1.; B.7.2.2.; B.7.2.7. – B.7.2.10.		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	We have updated the description of adherence to the applicability criteria of AMS I.J clause 5. Please see updated PoA-DD.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	1. Justification for applicability criterion No.5 was improved in PoA-DD version 02. The finding is closed. 2. However, applicability criterion 2 is not justified completely. Finding remains open.		
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	We have justified adherence to applicability criterion 2. Please see updated PoA-DD.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:



Finding	CPA-B10		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	In PoA-DD version 03 and CPA1-DD version 03, Applicability criterion 2 for AMS I.J is in line with the applied methodology. Finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B11		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The monitoring of possibility of use of back up electricity in the in the project activity was not specified. Associated checklist question(s): B.2.1.; B.2.4.; B.7.2.1.; B.7.2.2.; B.7.2.8. – B.7.2.10		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	Some of the solar water heaters may have back-up electric elements installed as part of the solar water heating system. The geysers with back-up electric elements will all be fitted with timers to reduce the amount of electricity consumed. For middle and high income households and community residential units, we use the stipulated energy savings approach. As such, we do not need to consider the electricity consumed as back-up. The stipulated energy savings approach provides a conservative energy saving value based on collector area. For low income households, the solar water heaters will not have electric back-up.		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B CPA-DD B	New version No.: 02
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<ol style="list-style-type: none"> 1. Middle and high income installations that will have back up power have a timer as per Eskom rebate requirement ^{/ESKOM/}. However the monitoring arrangement is not included in Section B.7.2. of PoA-DD version 02. The Finding remains open. 2. If low income SWH installations have no back up electricity. It is not explained what will be used for water heating in days of no solar radiation. Finding remains open. 		



Finding	CPA-B11		
Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>1. We have used the model-based approach. Please note that this approach takes into account the solar radiation and determine what is possible in terms of renewable energy generation given the project system characteristics and the weather data. Hence, the project scenario still has emissions from electricity consumption due to the need for back up electricity when there is insufficient solar radiation and for electricity to run the pump and heat exchanger if required. Hence, the use of back up electricity is taken into account. The monitoring consists of calibrating the model based on monitoring the weather data. This will then adjust the amount of back-up electricity required based on when solar radiation is available. Hence, back up electricity is already accounted for in the model. The solar water heater comes equipped with a back-up electric element.</p> <p>2. The climate in South Africa and, particularly, the eThekweni Municipality will allow for the solar water heaters to be used most of the year round. However, if there is no solar radiation and the solar water heaters do not work then the low income households will most likely use no hot water or will make use of electric appliances to heat water during this time. This is accounted for in the model-based approach as this approach takes into account the solar radiation in the area in question and discounts the emission reductions for periods where there is no solar radiation available. This can easily be seen by inputting the values into the model for a low pressure solar water heater. There is still an electricity consumption which is required in the project scenario for days when there is insufficient solar radiation. The model only accounts for the savings from the amount of renewable energy that the solar water heater generates given the characteristics of the project system, the household's requirements and the availability of solar radiation.</p>		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): Part II B CPA –DD B	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. Monitoring of back up electricity in middle and high income household SWH will be done as part of monitoring of the model based method. The finding is closed.</p> <p>2. Similarly in low income households, monitoring of possible use of electricity during days of no radiation is catered for under the monitoring arrangement for the Model. The finding is closed.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

Finding	CPA-B12
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Related DDs	<input type="checkbox"/> PoA-DD	<input checked="" type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input checked="" type="checkbox"/> CAR	<input type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>1. The form/template for monitoring was not developed yet.</p> <p>Associated checklist question(s): B.7.2.7. – B.7.2.11.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>The monitoring template has been provided to the DOE.</p>		
	<input type="checkbox"/> Changes in PDD	Section(s):	New version No.:
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>1. The monitoring template was developed and presented to DOE. The template captures relevant monitoring data to monthly check the functioning of the project equipment. The finding is closed.</p>		
Conclusion <i>Tick the appropriate checkbox</i>	<p><input type="checkbox"/> To be checked during the first periodic verification</p> <p><input type="checkbox"/> Additional action should be taken (finding remains open)</p> <p><input checked="" type="checkbox"/> The finding is closed</p>		

Finding	CPA-E1		
Related DDs	<input type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
Classification	<input type="checkbox"/> CAR	<input checked="" type="checkbox"/> CL	<input type="checkbox"/> FAR
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The description of Local Stakeholder Consultation (LSC) in the CPA-DD was not satisfactory/clear with regards to adequate consultation process.</p> <p>Associated checklist question(s): E.1.1. – E.1.3.</p>		
Corrective Action #1 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>The description of the local stakeholder consultation process has been updated. Please see updated description.</p>		
	<input checked="" type="checkbox"/> Changes in PDD	Section(s): F	New version No.: 03
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:
DOE Assessment #1 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	<p>The description of the LSC in CPA1-DD version 03 has been improved with vital information on the invitation process, consultation, list of invitees, comments raised and how they were dealt with.</p> <p>However original evidences such as signed attendance list and newspaper article were not provided. The finding remains open.</p>		

Finding	CPA-E1																																						
Related DDs	<input type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD																																				
Corrective Action #2 <i>This section shall be filled by the PP. It shall address the corrective action taken in details. In case the PDD is changed as part of the CA, the PP is requested to indicate the revised sections as well as the new version No.</i>	<p>Please see updated CPA-DD which includes the references. In addition, please see the website links to the evidence of the articles:</p> <ul style="list-style-type: none"> Municipal Website: http://www.durban.gov.za/Resource_Centre/public_notices/Documents/Stakeholder%20Consultation%20eThekweni%20Residential%20Hot%20Water%20Efficiency%20Programme%20CDM%20Project.pdf KZN Renewable Energy Forum: http://www.kznenergy.org.za/viewfullannouncement.aspx?id=76 Metro Ezasegagasini: http://www.durban.gov.za/media_publications/gazette/Documents/Binder2.pdf and http://www.durban.gov.za/media_publications/gazette/Documents/Binder11.pdf <p>The consultation list has been scanned in and is presented below.</p> <table border="1"> <caption>Attendance Register</caption> <thead> <tr> <th>Name</th> <th>Company</th> <th>Email and phone number</th> </tr> </thead> <tbody> <tr> <td>J Andrews T Mkhabela</td> <td>Deloitte Energy E-Office</td> <td>jandrews 084 299 6873 tmkhabela@durban.gov.za 073 6989 149</td> </tr> <tr> <td>S. Kuzwayo</td> <td>Deloitte</td> <td>skuzwayo@deloitte.co.za 019 779 8626 081 764 6449</td> </tr> <tr> <td>Jenna Hemmings</td> <td>Futureworks</td> <td>jenna@futureworks.co.za</td> </tr> <tr> <td>Nicci Diederichs</td> <td>Futureworks</td> <td>nicci@futureworks.co.za 031 764 6449</td> </tr> <tr> <td>Susanna Goolamark</td> <td>MXA</td> <td>susanna@eastwest.co.za 091 207 3288</td> </tr> <tr> <td>Ntombi Dubazana</td> <td>Dubitz Estate</td> <td>dubitz1@webmail.co.za 0723269385</td> </tr> <tr> <td>Wade Rana</td> <td>Smiths</td> <td>wade.rana@smiths.co.za 082 347 8347</td> </tr> <tr> <td>Fregust Ziemkendor</td> <td>Smiths</td> <td>fregust.ziemkendor@smiths.co.za</td> </tr> <tr> <td>Im Amla Amla</td> <td>Ceyar Duta</td> <td>Im Amla 2000@yahoo.co.za</td> </tr> <tr> <td>Goolam Rawat</td> <td>Rawat Group</td> <td>ghr@95samil.co.za 082 952 2938</td> </tr> <tr> <td>NAT MARIMUTHU</td> <td>Kusile Eng</td> <td>Kusile@absamail.co.za 0852269163</td> </tr> </tbody> </table> <p>A larger copy has been sent to the DOE.</p> <p>Please note that the list is not signed. However, phone numbers have been provided and email addressed. should the DOE wish to confirm that the meeting took place then they are welcome to contact anyone on the list.</p>			Name	Company	Email and phone number	J Andrews T Mkhabela	Deloitte Energy E-Office	jandrews 084 299 6873 tmkhabela@durban.gov.za 073 6989 149	S. Kuzwayo	Deloitte	skuzwayo@deloitte.co.za 019 779 8626 081 764 6449	Jenna Hemmings	Futureworks	jenna@futureworks.co.za	Nicci Diederichs	Futureworks	nicci@futureworks.co.za 031 764 6449	Susanna Goolamark	MXA	susanna@eastwest.co.za 091 207 3288	Ntombi Dubazana	Dubitz Estate	dubitz1@webmail.co.za 0723269385	Wade Rana	Smiths	wade.rana@smiths.co.za 082 347 8347	Fregust Ziemkendor	Smiths	fregust.ziemkendor@smiths.co.za	Im Amla Amla	Ceyar Duta	Im Amla 2000@yahoo.co.za	Goolam Rawat	Rawat Group	ghr@95samil.co.za 082 952 2938	NAT MARIMUTHU	Kusile Eng	Kusile@absamail.co.za 0852269163
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	<input checked="" type="checkbox"/> Changes in PDD	Section(s): C	New version No.: 04																																				
	<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:																																				



Finding	CPA-E1		
Related DDs	<input type="checkbox"/> PoA-DD	<input type="checkbox"/> generic CPA-DD	<input checked="" type="checkbox"/> real case CPA-DD
DOE Assessment #2 <i>The assessment shall encompass all open issues in annex A-1. In case of non-closure, additional corrective action and DOE assessments (#2, #3, etc.) shall be added.</i>	The CPA1-DD version 04 has been improved with details on the local stakeholder consultation meeting. The finding is closed.		
Conclusion <i>Tick the appropriate checkbox</i>	<input type="checkbox"/> To be checked during the first periodic verification <input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

5 VALIDATION ASSESSMENT SUMMARY

5.1 General Description of the PoA

5.1.1 Technology to be employed

The PoA-DD version 06 contains a clear description of the project activity and the technologies to be deployed. The project will deploy renewable energy (solar water heating systems) and energy efficient (water heat pumps) in low income, middle and high income households in South Africa. The project technologies will vary in capacity but they all have to be certified by the South African Bureau of Standards (SABS)^{/SABS/} to ensure quality.

The PoA does not involve alteration of existing equipment. It instead will do away with the baseline water boiling geyser replacing it with either an energy efficient heat pump or solar water heating system. The PoA-DD and CPA-DD give a clear description of the programme and pre-programme situation.

Following the closure of CL PoA-A1, CARs PoA-A2, PoA-A3, PoA-A4, PoA-A6, PoA-A7 and PoA-A8, the programme technical description together with the operating and implementing framework is clear and accurate.

5.1.2 Small Scale PoAs

The programme falls under CDM Small Scale limit as demonstrated in the PoA-DD version 06 and CPA1-DD version 06. For the solar water heating technologies Solar water heaters: Basing on *Appendix B of the Simplified modalities and procedures for small-scale clean development mechanism project*, the threshold for solar energy projects is $64,000 \text{ m}^2$ ^{/METH,SSC/}. The collector sizes installed under this PoA typically ranges from 1.5 to 4 m^2 . Each CPA will install between 16,000 and 42,667 solar water heaters^{/IM01,PoA-DD6,CPA1-DD6/} to remain within the CDM small scale threshold.

For the heat pumps the threshold is a saving in electrical energy of 60 GWh/yr as per AMS II.C^{/METH/}. The baseline geyser consumes about 35.04 MWh/yr^{/ESKOM/}. The heat pumps to be installed have capacity of 0.85 kW^{/SPEC/}; operating all year round the project electricity consumption would be 7.44 MWh/yr^{/PoA-DD6, CPA-DD6, XLS4/}. This is a saving of 27.6 MWh/yr.

Therefore all individual units deployed in the programme are below 1% of the threshold for both solar water heating and heat pumps and hence are considered not debundled components of a large scale programme^{/EB54 Annex 13/}.

The PoA-DD version 04 and CPA1-DD version 04 correctly apply methodologies AMS I. J version 01 and AMS II.C version 13 within the provisions of 'Standard for the demonstration of additionality, development of eligibility criteria and application

of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)^{/PoAS/}. The applied methodologies reference the *Tool to calculate the emission factor for an electricity system* Version 02.2.1, EB 63^{/TOOL/}. In line with § 30-31 of EB 70, Annex 05, the validation team confirms that no cross effects between the project technologies in a CPA will occur since only one independent technology (heat pump or solar water heater) can be installed in each of the households eligible for inclusion in the CPA. Hence emission reductions are calculated based on one technology per household.

5.1.3 Definition of a typical Component Project Activity (CPA)

The PoA-DD unambiguously describes the CPA with regard to technology to be installed and the management structure of the CPA. In this case the CME for the PoA and the responsible entity for CPA1 (eThekweni Municipality)^{/PoA-DD06, CPA1-DD06/}.

The eligibility criteria outlined in the final PoA-DD were reproduced in the final CPA1-DD and justified in such a manner that they can be verified. The eligibility criteria were checked for consistency with those outlined in the Programme Standard^{/PoAS/} all necessary requirements are included. The PoA-DD, generic CPA-DD and CPA1-DD version 06 are internally consistent.

Following the successful closure of CAR PoA-A8, CAR PoA-A7 and CAR PoA-A5, the definition of a typical CPA in the PoA-DD version 06 is sufficient.

5.2 PoA Baseline

5.2.1 Application of the Methodology

The PoA-DD and the CPA1-DD versions 06 apply the latest applicable and valid versions of methodologies: Solar water heating: Approved methodology small-scale (AMS) I.J 'Solar water heating systems (SWH)' Version 01, EB 60 and for Heat pumps: Approved methodology small-scale (AMS) II.C 'Demand-side energy efficiency activities for specific technologies' Version 13, EB 48. All applicability criteria of both methodologies are explained and justified in section B.2 of the PoA-DD and the CPA eligibility criterion 05 ensures compliance of all CPAs with § 14 (e) of EB 65, Annex 03 and EB 70 Annex 05. The validation team has assessed each applicability condition of both applied and approved small-scale methodologies with respect to the technologies to be installed, in line with requirements of § 77 of the VVS v.2.0^{/SPEC/SABS/VVS/}. Please refer to Annex 2 of this report for further analysis.

There are no cross effects between the technologies by application of the two methodologies as each house or residential unit will have only one technology unit installed. This is in line with "Standard for the demonstration of additionality,

development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 02.1, EB 70, Annex 05^{/POAS/}

The methodological tool referenced is '*Tool to calculate the emission factor for an electricity system*' Version 03.0, EB 70 which is applicable and still valid^{/unfccc/}.

Following the successful closure of the relevant findings in Section 4, all applicability criteria and other stipulations of both methodologies and any tool applicable to have been met and correctly quoted as detailed in the generic CPA-DD (PoA-DD version 06) and in the real case CPA1-DD version 06. For further details pls refer to Annex 2, table A-2 of this report

There is no request for deviation from the applied methodologies observed during validation. For Solar water heating no project emissions are expected; for heat pumps project emissions are related to electricity consumption, which is less than the baseline and hence not considered significant. For both technologies possible leakage has been accounted for through periodic and independent monitoring of the replaced systems to ensure no re-use or re-sale. The validation team confirms that all applicability conditions of both methodologies with regard to their respective technologies are fulfilled by the PoA.

5.2.2 PoA Boundary and CPA Boundary

The PoA geographical boundary is the the Republic of South Africa^{/PoA-DD06/}. The spatial boundary of real case CPA1 is the eThekweni municipality which is situated in South Africa. CPA-DD version 06 includes a map and GPS coordinates of the boundaries of the municipality. The project boundary is the physical location of each project equipment and in the case of solar water systems it includes the household consuming the hot water. The GHG included in the boundary of the generic CPA and CPA1-DD is CO₂ through the displacemt of emissions caused by use of electricity in the baseline for residential water heating systems. The applied methodologies do not specify GHGs to be included in the project boundary.

Based on sectoral knowledge and technical specifications^{/SPEC/} the technologies to be installed are not expected to emit any other sources of GHGs and no emissions of more than 1% over the accounted in the project emissions calcultiaon are expected in this project activity.

The PoA-DD version 04 includes eligibility criterion No.1 which ensures compliance with PoA boundary for CPA inclusion. The programme activity adheres to national policies and regulations of South Africa and advances the host government's policy on renewable energy^{/gov/} and government's initiative to energy less electricity consumption through rebates introduced by ESKOM's Demand Side Programme^{/ESKOM/}.

5.2.3 Baseline Identification

Solar water heaters (SWHs):

The applied methodology (AMS I.J ver01) prescribes the baseline scenario as the operating water heating systems and their fuel source prior to the project activity for retrofit projects. In this case it is the electric geyser and/or electrical water heating devices. Based on literature review^{/BE/} and onsite observation, it was evident that the common residential water heating practice in the PoA boundary was by use of electricity. In the middle and high-income households, electric geysers are used and in low-income households and residential communities, electrical appliances are used. Therefore the choice of the electric geyser as the baseline scenario is justified. Similarly for new construction in the PoA this refers to low income houses newly constructed by the government, they are all grid connected so the assumption is that the baseline is the use of electric appliances to heat water. With regard to adherence to national policies, the newly enacted Building Standards Act (November 2011)^{/SABS/} which requires all new construction to receive 50% of heated water from renewable sources does not affect low income households^{/BE/}.

Heat pumps (HPs):

The applied methodology AMS II.C. version 13 prescribes the baseline scenario as the baseline energy. Heat pumps will be installed in households that were previously heating water by electric geyser^{/PoA-DD06, CPA-DD06/}. In this case where the baseline energy is electricity, the baseline emissions is determined through given options^{/METH/}. The CPA1-DD version 06 includes details of baseline emissions determination

It is reasonable to assume that CPAs as is the case in CPA1-DD version 06 will comply with the baseline since it is a prerequisite to be grid connected before benefitting for the ESKOM rebate system^{/ESKOM/} and the rebate is another incentive for the equipment installers to participate in the project. Eligibility criterion 01 ensures that only grid-connected households benefit from the PoA.

5.2.4 Algorithms and formulae used to determine emission reductions

Generic CPA-DD and CPA1-DD version 06 include formulae for calculating emission reductions:

The overall emission reduction is calculated as sum of emissions reduction of heat pumps ($ER_{HP,y}$) and emissions reduction of solar water heaters ($ER_{SWH,y}$) following the formula $ER_y = ER_{HP,y} + ER_{SWH,y}$ ^{/PoA-DD06, CPA1-DD06, XLS05/}.

Solar Water Heaters (SWHs): The SWHs will be installed in residential buildings. Therefore the model based method was correctly chosen for calculation of emission reductions. The computerised simulation model generates baseline and project

energy consumption. The RETScreen model has developed integrated input parameters and generated data are included in PoA-DD version 06 and CPA1-DD version 06. Characteristic of each Solar Water Heater shall be captured in the approved RETScreen model and accounted for in the emission reduction calculations.

In line with the applied methodology, emission reductions from Solar Water Heaters (SWHs) in the different sub-groups are calculated based on the formula:

$$ER_{SWH,y} = ER_{MH,y} + ER_{C,y} + ER_{L,y}$$

which is the sum of emissions reductions from middle & high income household solar water heaters; emission reductions from community residential solar water heaters; and from low income households solar water heaters^{/PoA-DD06, CPA1-DD06, XLS6/}.

Applied methodology AMS I.J stipulates the emission reduction calculations, in accordance with the provisions of AMS.I.D. This represents the energy savings multiplied by emissions factor for the electricity displaced in baseline.

To determine overall energy savings, the CME has chosen the Model-based method as the SWH would be installed in residential buildings. The annual performance of the baseline and project systems will be computed using UNFCCC approved RETScreen program^{/RET/}. The data used in the model will be collected from reliable installation and Eskom rebate forms. Daily usage of hot water in low income and residential units is fixed 100 litres per household, based on an occupancy of 4 persons each consuming an estimated average of 25 litres in low income households. This value was confirmed during onsite visit^{/IM03/}. Daily hot water usage in middle and high income households will be monitored. The value set for ex-ante emissions reduction estimation was 50 litres per person in middle and high income households is based on publicly available data^{/BE/}. However, as per § 17 of the applied methodology AMS I.J, the actual parameter water consumption value will be monitored for at least 30 day periods in the summer and winter times and shall not exceed the methodology cap of 40 litres/day of a full time resident. Water temperature is a monitored parameter and was set at 65°C based on publicly available sources^{/BE/}.

Each category's ER will be calculated as per formula:

$$ER_{SWHi,y} = N_y * I_y * F_y * ER_{i,y}$$

the number of the solar water heaters installed (N_y) multiplied by percentage of solar water heaters that was installed properly (I_y) multiplied by the percentage of solar water heaters still operational (F_y) multiplied by emission reductions of a solar water heater of the category i for year y ($ER_{i,y}$) as determined by the approved RETScreen model. The output of the model is the specific energy consumption in baseline ($E_{BL,i,L,y}$) and in project ($E_{PJ,i,L,y}$) of given SWH type i . The difference in energy

consumption, the energy saving is multiplied with emissions factor for electricity grid system according to the general formula provided: $ER_{i,L,y} = (EBL_{i,y} - EPJ_{i,y}) \times EF_{CO2,ELEC,y}$

The ex-ante grid emission factor to estimated emission reductions has been calculated in accordance with the latest version of the 'Tool to calculate the emission factor for an electricity system.' Version 3.0. The grid emission factor ($EF_{CO2,ELEC,y} = EF_{GRID,CM}$) is estimated based on a combined margin (CM). In this case, the Combined Margin is estimated based on the Simple Operating Margin ($EF_{grid,OMsimple,y}$) and Build Margin ($EF_{grid,BM,y}$)^{/PoA-DD06/EF/}. The Simple Operating Margin is calculated ex-ante based on the three years generation weighted average (2008/09, 2009/10, 2010/11). Out of other 3 options for calculating OM, PP has selected simple OM emission factor calculation as the share of low cost / must run resources of the selected grid over the recent years is < 50% of the gross grid generation. The values for both, Simple Operating Margin and Build Margin, are selected under an ex-ante approach. The grid boundary is the South African National Grid. In accordance with the "Tool to calculate the emission factor for an electricity system", weight factors of OM i.e. $w_{OM} = 0.88 \text{ tCO}_2\text{e/MWh}$. The Build Margin is calculated ex-ante based on power units representing 20% of generation and starting supply electricity most recently. Power plants older than 10 years were included in the calculation in order for the electricity generation of the newest set to comprise 20% of the total annual generation of the grid. The calculation was conducted in line with steps underlined in the "Tool to calculate the emission factor for an electricity system", version 03.0^{TOOL/}. BM i.e. $w_{BM} = 0.87 \text{ tCO}_2\text{e/MWh}$ has been determined. The resultant grid emission factor ($EF_{GRID,CM}$) for the South African National Grid therefore works out to be $0.87 \text{ tCO}_2\text{e/MWh}$. The validation team confirms the authenticity and correctness of the emission coefficient calculation as presented in Appendix 4 of the PoA-DD^{/PoA-DD/EF/} is based on publicly available data and the same is deemed to be adequate and transparent. The most updated emission factor calculated using ex-ante option is allocated does not require monitoring during CPA crediting period^{GEF/}

Heat Pumps (HPs): The displaced energy in the baseline is electricity, therefore option 1 of applied methodology AMS. II.C was chosen for calculating emission reductions. Since there is no baseline refrigerant in the baseline scenario, $BE_{HP,y} = E_{BL,y} \times EF_{CO2,ELEC,y}$ (energy consumption in baseline ($E_{BL,y}$) multiplied the grid emission factor). Energy consumption in the baseline is calculated based on the number of devices in a given group multiplied by the power of the devices in the group, the average operating hours and a fraction of technical grid losses.

For HP project emissions; $PE_{HP,y} = E_{PJ,y} \times EF_{CO2,ELEC,y} + PE_{ref,PJ}$ (project electricity consumption multiplied by grid emission factor and emissions of the refrigerants used in the project heat pumps). Project consumption is calculated same as baseline energy consumption.



Leakage as per applied methodologies is considered if equipment is transferred from another activity. In the PoA, all equipment installed is new and the old equipment will be scrapped. The scrapping of replaced equipment will be monitored by independent third party. Hence no leakage is envisaged^{/PoA-DD06, CPA1-DD06, XLS6/}. Nevertheless PP provides a procedure for monitoring of leakage. In case the baseline equipment would still be in use, no emission reductions for the monitoring period would be claimed from the affected household.

Data sources, equations, and assumptions are correctly stated and correctly referenced in the PoA-DD version 06 and CPA1-DD version 06 as well as in the excel calculation^{/XLS06/}. Similarly all values of fixed and monitoring parameters are reasonable. The validation team has cross-checked that the baseline methodologies were applied correctly to calculate baseline, project leakage and emissions reduction emissions.

Following the closure of related findings in Section 4, the PoA's emission reductions are assessed as conservative and accurate.

5.3 Additionality Determination

5.3.1 PoA

PoA-DD includes additionality justification based on the *Guidelines on the demonstration of additionality of small-scale project activities*. The PoA identifies barriers of Access-to-Finance, technological barrier and prevailing practice barrier. For further assessment of the presented barriers, please see Annex 5 of this report.

As per additionality guidance^{/EB 68 Annex 27/}, CPAs are automatically additional if project activities solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size of each unit is no larger than 5% of the small-scale CDM thresholds. This is the case with in this PoA as demonstrated in 5.1.2. above (small scale threshold). The PoA eligibility criterion 06 ensures that all CPAs are additional and the CME can verify this before inclusion into the PoA..

5.3.2 CPA level

Starting date / Consideration of CDM in decision making

The starting date is 2013-01-01^{/CPA1-DD06/} when the first project equipment will be installed. The date is after the commencement of the validation of the PoA^{/unfccc/} and hence CPA1 is eligible^{/PoA-DD06, PoAS/}.

Alternatives

The applied methodologies prescribe the baseline.

Barrier analysis

The identified barriers of prevailing practice, technological barrier and access to finance are real based on host country experience. Annex 5 of this report includes further analysis of the PoA barriers. However as indicated above, the PoA is automatically additional based on EB guidance^{/EB68 Annex 27/}.

Additionality-related eligibility criteria

PoA-DD version 06 eligibility criterion No.6 requires each CPA to demonstrate additionality in line with the PoA framework. As indicated above CPA1 is automatically additional as per additionality guidelines EB guidance^{/EB68 Annex 27/}. For more details pls refer to chapter 5.3.1 above.

5.4 Operational, Management and Monitoring Plan of the PoA

The validation team has applied a two-step process to assess the PoA compliance with the requirements of monitoring methodologies, as follows:

- i) **Compliance of the monitoring plan with the approved methodologies:**
 - Identified the list of parameters required by the applied and approved methodologies by means of document review;
 - Confirmed that the monitoring plan contains all necessary fixed and monitored parameters, that they are clearly described and that the means of monitoring described in the plan complies with the requirements of the applied methodologies AMS-I.J and AMS-II.C.;
- ii) **Implementation of the plan:**
 - The monitoring arrangements described in the monitoring plan are feasible within the PoA and CPA project design;
 - The means of implementation of the monitoring plan, including the data management and quality assurance and quality control procedures, are sufficient to ensure that the emission reductions achieved by/resulting from the proposed PoA can be reported ex-post and verified.

The assessment has been conducted by the validation team by reviewing of the documented procedures and interviews with relevant personnel and the project plans.

The hot water consumption for low income communities was fixed conservatively (100 litres per residential unit) as per information verified onsite^{/IM03/}.

The data/parameters that will be monitored in each CPA are the possible leakage (LE) due to use of baseline equipment, number of installed units (N), as well as percentage of properly installed ($I_{SWH,y}$) and operational units ($F_{SWH,y}$). Hot water consumption and outlet temperature in middle and high income house holds will be monitored. Technical parameters of installed devices in baseline and in project are will be monitored from Eskom rebate form and during installation of the project activity. The solar radiation data will be monitored in order to calibrate the RETScreen model. For the calculation of project emissions due to use of refrigerator the amount of refrigerant and the global warming potential of the refrigerant used will be monitored.

Detailed roles and responsibilities of CME and CPA implementor have been provided in the PoA-DD and deemed sufficiently detailed for the purpose of the PoA monitoring. The PP makes provisions for training. Training of CPA implementer will in responsibilities of CME. QA/QC procedures are deemed sufficient and data will be stored during the crediting period and two years after the end of the crediting period. Therefore, it can be concluded that the monitoring arrangements stipulated by the CME of the PoA are feasible and comprehensive for the purpose of CPA emission reduction monitoring.

Following the successful closure of CAR PoA-A3, CL CPA-B9, CAR CPA-B10, CL CPA-B11, CAR CPA-B12, CAR CPA-B13. PoA-DD version 06 is deemed adequate with regard to operational, roles and responsibilities for implementation and management of each CPA. CPA1-DD version 06 presents its management structure in line with the requirements of the PoA Standard^{/PoAS/}. The monitoring plan in PoA-DD version 06 and CPA1-DD version 06 covers all monitoring parameters required for AMS I.J version 01 and AMS II.C version 13 and are considered feasible to ensure the ERs to be achieved by the individual CPA can be properly reported and verified.

It is therefore concluded that:

- The monitoring plan covers all monitoring parameters given in the applied monitoring methodologies and all parameters which have to be monitored with respect to the project boundary.
- The defined monitoring plan and all monitoring arrangements are feasible within the project design.
- The means of implementation of the monitoring plan, including data management and quality assurance and quality control procedures are sufficient to ensure that the emission reductions to be achieved by the project activity can be properly reported and verified.

5.4.1 Assessment of the PoA Sampling Plan

The CME has developed a Sampling Plan in line with requirements of the *Standard for Sampling and Surveys for CDM Project Activities and Programme of Activities* (Version 02.0, EB 65, Annex 02). the PoA applies equations as per *Best Practice Examples Focusing on Sample Size and Reliability Calculations* (EB 67, Annex 06) and guidelines of the applied methodologies.

Objectives and reliability Requirements

The objective of the sampling plan is to estimate the proportion (%) of units operating, and the proportion (%) of properly installed units in project households. Additionally, parameters such as average operating hours, water and temperature data will be determined from sampling approach. These parameters are used to determine baseline and project energy consumptions and hence, emission reductions during a given monitoring period. Under CPA1, PP will deploy SWHs and HPs to three categories of households, i.e, low income households, community residential units, and middle and high income households. To determine the above mentioned parameters for the purpose of calculating emission reductions, simple random sampling will be applied within the subpopulations in the three categories of households as well as different types of appliances. Accordingly, the CME approach can be described as stratified random sampling approach, using equation 19 of EB 67 Annex 6 to determine the sample sizes.

Target Population

The target population will be units (SWHs or HPs) installed in low-income households, CRUs, and middle to high income households in the eThekwin Municipality. For heat pumps, only non-metered units in CRUs and middle to high income households will be sampled.

Sampling Method

The CME has chosen simple random sampling within each subgroup using an automated random number generator to select 100 installations for inspection. To measure water consumption, flowmeters will be installed for two periods of at least 30 continuous days each season for the year in question on the installations selected. The meters will record hot water consumption and load profiles of the households and this information will be used to calculate emission reductions from solar water heaters installed in middle and high income households.

Determination of the Sample Size

As per §14 AMS.I.J, *...emission reductions can only be claimed for systems that are demonstrated to be operational and in compliance with manufacturer-*

required maintenance procedures, on an annual or biennial basis during the crediting period. Accordingly, project participant has chosen to inspect annually and hence applied 90/10 confidence level and precision as specified by §16 of the AMS.I.J. Therefore, the applied equation 19 (of EB 67 Annex 06) to estimate sample size is deemed correct. As per stipulations in the sampling standard (EB 69, Annex 4 § 12 (c)), project participant has prescribed a minimum sample size of 30 for calculations returning minimum samples of less than 30 regardless of whether the sample size of interest has met the minimum level. This is as per the sampling standard and acceptable to the validation team.

Since both methodologies have no minimum required levels of precision and confidence for sampling to determine operating hours and water temperature. The CME has specified 90/10 as per stipulations of the sampling standard § 10

Sampling Frame

The sampling frame will be the database of households where SWH or HP are installed. All values to be estimated in each subgroup as required by both methodologies are included in the PoA-DD

The validation team has reviewed the outlined sampling plan and all parameters with regard to requirements of both applied methodologies and the sampling standard, and deems it sufficient to ensure representative, measurable, traceable, and credible emission reductions.

5.5 Crediting Period

The starting date of CPA1 is 2013-01-01 which is after commencement of validation of PoA (2012-06-28). The fixed crediting period has been chosen^{/CPA1-DD06/}. The Project operational lifetime is given as ten years. The end of the crediting period for the CDM Programme of Activities is given as 28 years as per programme standard guidelines.

5.6 Environmental Impacts

As per host country environmental legislation^{/NEMA/}, the technologies to be employed in the Programme of Activities are not included in those that require EIA. Hence no EIA is required for this PoA as per host country regulations.

5.7 Comments by Local Stakeholders



The PoA framework specifies that local stakeholder consultations must take place at CPA level^{/PoA-DD06/}. The local stakeholders (interested and affected parties) for the first CPA were defined as the habitants who fall in the boundary of the municipality of eThekweni. The public was invited via public notice in English and Zulu local newspapers. The public meeting was held on 2012-02-27 to present the project. Stakeholders were invited to comment on the project. All comments were sufficiently responded to in the CPA-DD.

Following the closure of CAR CPA-E1, it is confirmed that all relevant local stakeholders were invited for CPA1^{/SHCP/}. A summary of their comments is included in CPA1-DD version 04 and how the comments were responded to.

5.8 Participation

5.8.1 Definition of Roles

The PoA CME (Coordinating and Managing Entity) is eThekweni Municipality also a project participant of the PoA according to the section A.3 of the PoA-DD as well as per host country approval. The Energy Office of eThekweni municipality will be the operator of the PoA. The CME is a public local administration entity with builds in public goods delivery control mechanism, which confirms its competences to ensure that all participating CPA implementers meet the specified standards of the PoA.

PoA-DD version 04 includes details of the roles and responsibilities of the CME, eThekweni Municipality as well as CPA implementors. The validating team assessed the management system and the capacity CME and come to the conclusion that the system complies with the requirements of paragraph 17 of PoA standard.

5.8.2 LOA

The Department of Energy of the host party, the Republic of South Africa is listed as DNA in the UNFCCC website and South Africa ratified the Kyoto Protocol on 31 July 2002. Clean Development Mechanism Programme of Activities with title "Residential hot water Efficiency programme in South Africa" has been issued letter of approval dated 12 September 2012 vide official document by Energy department Republic of South Africa. The LoA was presented by project participant.

The LoA is signed by the DNA of South Africa, which is the only party involved (see details in Section 4 finding PoA-F1). The LoA was assessed as authentic based on host country knowledge and in line § 39-44 of the Validation and Verification Standard v2.0 .



5.8.3 MoC

The latest template of the MoC^{/unfccc,MoC/} was filled by the project participant. Correct corporate identity of eThekweni Municipality and address and telephone contacts are stated in the MoC^{/IM01,MoC/}. The contact details of primary contact and alternate contact are given as well as their signature specimen.

The MoC confirms that the CME communicates with the Board. The MoC is received from a PP (eThekweni Municipality) with whom the TÜV NORD has a contractual relationship. The representatives of eThekweni Municipality submitted the MoC statement to the DOE.

5.9 Project Documentation Editorial Aspects

Following the closure of CAR F2, PoA-DD version 04 and CPA1-DD version 04 apply the latest PoA-DD and CPA-DD templates displayed on the UNFCCC website^{/unfccc, PoADD-T,CPADD-T/}. These documents are also in compliance with the guidelines for completing PoA-DDs/CPA-DDs^{/GUIDE/}.



6 VALIDATION OPINION

eThekweni Municipality has commissioned the TÜV NORD JI/CDM Certification Program (CP) to validate the programme: "Residential Hot Water Efficiency Programme in South Africa" with regard to the relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting. UNFCCC criteria include article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakech Accords) and the relevant decisions by COP/MOP and CDM Executive Board.

In the course of the pre-validation 22 Corrective Action Requests (CARs) and 8 Clarification Requests (CLs) were raised and successfully closed.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties, stakeholders and NGOs have provided TÜV NORD JI/CDM CP with sufficient evidence to validate the fulfilment of the stated criteria.

In detail the conclusions can be summarised as follows:

- The PoA is in line with all relevant host country criteria (South Africa) and all relevant UNFCCC requirements for CDM. Project activity approvals have been obtained from DNA of South Africa vide the Letter of Approval (HCA) dated 2012-09-12.
- The PoA additionality is sufficiently justified in the PoA-DD.
- The eligibility criteria established for CPA inclusion are deemed appropriate and sufficient.
- The monitoring plan is transparent and adequate.
- The calculation of the PoA emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of 288,080 t CO₂e are most likely to be achieved within the crediting period.
- All information has been consistently applied in the generic CPA-DD form.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Bangalore, 2012-12-25

Nikesh, R. S. Team, Leader
TÜV NORD JI/CDM CP
Validation Team Leader

Essen, 2012-12-25

Rainer Winter
TÜV NORD JI/CDM CP
Final Approval

7 REFERENCES

Table 7-1: Documents provided by the project participant

Reference	Document
/CPA1-DD01/	Component Project Activity Design Document, "eThekweni Municipality Residential Hot Water Efficiency Programme CPA1" - version 1.0 (2012-05-23) hosted on 2012-06-28
/CPA1-DD02/	Component Project Activity Design Document, "eThekweni Municipality Residential Hot Water Efficiency Programme CPA1" version 02 (2012-08-14)
/CPA1-DD03/	Component Project Activity Design Document, "eThekweni Municipality Residential Hot Water Efficiency Programme CPA1" version 03 (2012-10-01)
/CPA1-DD04/	Component Project Activity Design Document, "eThekweni Municipality Residential Hot Water Efficiency Programme CPA1" version 04 (2012-11-06)
/CPA1-DD05/	Component Project Activity Design Document, "eThekweni Municipality Residential Hot Water Efficiency Programme CPA1" version 05 (2012-12-16)
/CPA1-DD06/	Component Project Activity Design Document, "eThekweni Municipality Residential Hot Water Efficiency Programme CPA1" version 06 (2012-12-21)
/HCA/	Host Country Approval from the DNA of South Africa dated 12-09-2012, signed by Ms. N. Mugubane
/MOC/	Modalities of Communication Form for the PoA – Residential Hot Water Programme in South Africa, submitted by eThekweni Municipality, dated 17/08/2012



Reference	Document
/PoA-DD01/	Programme of Activities Design Document, "Residential Hot Water Efficiency Programme in South Africa" – with <i>Generic CPA-DD</i> version 01 (2012-05-23) hosted on 2012-05-28
/PoA-DD02/	Programme of Activities Design Document, "Residential Hot Water Efficiency Programme in South Africa" – version 02 (2012-08-14)
/PoA-DD03/	Programme of Activities Design Document, "Residential Hot Water Efficiency Programme in South Africa" version 03 (2012-10-01)
/PoA-DD04/	Programme of Activities Design Document, "Residential Hot Water Efficiency Programme in South Africa" version 04 (2012-11-06)
/PoA-DD05/	Programme of Activities Design Document, "Residential Hot Water Efficiency Programme in South Africa" version 05 (2012-12-16)
/PoA-DD06/	Programme of Activities Design Document, "Residential Hot Water Efficiency Programme in South Africa" version 05 (2012-12-21)
/XLS01/	ER Excel Spreadsheet version 01
/XLS02/	ER Excel Spreadsheet version 02
/XLS03/	ER Excel Spreadsheet version 03
/XLS04/	ER Excel Spreadsheet version 04
/XLS05/	ER Excel Spreadsheet version 05
/XLS06/	ER Excel Spreadsheet version 06
/EF/	Grid Emissions Factor Calculation Excel Spreadsheet
/BE/	Baseline evidences (Literature Review): - "A review of domestic hot-water consumption in South Africa" by Joshua

Reference	Document
	<p>Meyer, August 2000</p> <ul style="list-style-type: none"> - Department of Energy, "Development of the South African National Solar Water Heating Strategy & Implementation Plan", a facet of the World Bank/GEF funded "Renewable Energy Market Transformation (REMT)" project, by Yaw Afrane-Okese 5 November 2009 - The National Solar Water Heating Conference, "Building Consensus On Accelerating The Rollout Of Solar Water Heaters In South Africa" November 2009 -
/ADD/	<ul style="list-style-type: none"> - "Domestic Solar Water Heater Financial Analysis – Solar versus electrical geyser comparison" by Kayedma Energy Solutions (Pty) Ltd, 2010 - "Renewable Energy Technologies in Southern Africa – A Guide for investors", September 1999 - "Renewable energy technologies for poverty alleviation – South Africa: biodiesel and solar water heaters" by Eugene Visagie and Gisela Prasad Energy Research Centre University of Cape Town, Oct 2006 - "Market Survey of Solar Water Heating in South Africa for the Energy Development Corporation (EDC) of the Central Energy Fund (CEF)" by Dieter Holm for SolaSure, May 2005 - "The South African Solar Water Heater Industry", Dominic Goncalves July 2011 - Eksom COP17 fact sheet: Solar Water Heating Rebate programme
/STAT/	<ul style="list-style-type: none"> - "Monthly earnings of South Africans" by Statistics South Africa, 2010
/SABS/	<ul style="list-style-type: none"> - The relevant specifications for heat pumps are SANS 151:2002 (only applicable to systems with electric back-ups), SANS 181:2004 and SANS 514:2007. The relevant specifications for solar water heaters are SANS 6211-1:2003, SANS 151-2002, SANS 6210:1992 and SANS 60335-2-21:2000
/SPEC/	<ul style="list-style-type: none"> - NuPower Solar Hot water domestic solar system (SABS test report) Standards: SANS 6211-1, SANS 1307 dated 20/08/2011 - TASOL domestic Heat pump TAS 8WB input power (kW 0.85) heating capacity (kW 3.6) - TASOL High Pressure thermosiphon solar geyser, sizes 100l, 150l, 200l - Renu solar low pressure intergrated solar heater, 150l
/ESKOM/	<ul style="list-style-type: none"> - Residential Heat Pump rebate programme brochure, "The heat of the moment, Save money with residential and small business heat pumps" by ESKOM

Reference	Document
	- Measurement & Verification Guideline Solar Water Heating, Oct 2007
/SHCP/	Local Stakeholder Consultation CPA-1 Public Notice: <ul style="list-style-type: none"> • Municipal Website: http://www.durban.gov.za/Resource_Centre/public_notices/Documents/Stakeholder%20Consultation%20eThekweni%20Residential%20Hot%20Water%20Efficiency%20Programme%20CDM%20Project.pdf • KZN Renewable Energy Forum: http://www.kznenergy.org.za/viewfullannouncement.aspx?id=76 • Metro Ezasegagasini: http://www.durban.gov.za/media_publications/gazette/Documents/Binder2.pdf and http://www.durban.gov.za/media_publications/gazette/Documents/Binder11.pdf
/MON/	Monthly Monitoring Template for the Installer
/RES/	Letter from eThekweni Municipality confirming that Community residential Units are not commercial developments dated 3 July 2012.

Table 7-2: Background investigation and assessment documents

Reference	Document
/METH/	<ol style="list-style-type: none"> 1. (AMS) I.J 'Solar water heating systems (SWH)' Version 01, EB 60 2. (AMS) II.C 'Demand-side energy efficiency activities for specific technologies' Version 13, EB 48
/CPM/	TÜV NORD JI / CDM CP Manual (incl. CP procedures and forms)
/NEMA/	Environmental Legislation: South Africa: National Environmental Management Act (NEMA), 2010 http://www.eiatoolkit.ewt.org.za/process/what.html
/GUIDE/	<p>Guidelines for completing the Programme Design Document for Small Scale CDM Programme of Activities, Version 02.0 EB 67 Annex 30</p> <p>Guidelines for completing component project design document form for small scale component project activities Version 01.0, EB 66 Annex 17</p>



Reference	Document
/4/CMP.1 Annex II/	Attachment B to Appendix B: Acronyms, Abbreviations and units of measure, version 06.0, EB 21 Annex 22
/IPCC-GP/	IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000
/IPPC-RM/	Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual
/KP/	Kyoto Protocol (1997)
/MA/	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))
/TOOL/	Methodological Tools: <ul style="list-style-type: none"> - Tool to calculate the emission factor for an electricity system – version 02.2.1 - Tool to calculate the emission factor for an electricity system – version 03.0
/EB 69 Annex 27/	General Guidelines for SSC CDM Methodologies, Version 19.0
/EB 54 Annex 13/	Guidelines on assessment of de-bundling for SSC project activities, version 03.0
/EB 65 Annex 02/	Standard for sampling and Surveys for CDM Project Activities and Programme of Activities
/EB 67 Annex 6/	Best Practices Examples Focusing on Sample Size and Reliability Calculations, version 01.1.
/EB 69 Annex 4 /	Standard for sampling and surveys for CDM project activities and program of activities, version 3.0
/EB 69 Annex 5/	Guidelines for Sampling and Surveys for CDM Project Activities and Programme of Activities, Version 02.0
/EB 68 Annex 12/	Guidelines for Demonstrating Additionality of Micro-scale project Activities



Reference	Document
/EB 68 Annex 27/	Guidelines on the Demonstration of Additionality of Small-Scale Project Activities, version 09.0
/EB 35 Annex 34	Non-binding best practice examples to demonstrate additionality for SSC project activities, version 01.0
/PoADD-T/	PoA-DD Template – version 02.0
/CPADD-T/	Component Project Design Document Form For Small-Scale Component Project Activities (F-CDM-SSC-CPA-DD) Version 02.0
/POAS/	Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for Programme of Activities, version 01.0 EB 65 Annex 03 Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for Programme of Activities, version 02.1 EB 70 Annex 05
/VVS/	UNFCCC Validation and Verification Standard (Version 02.0 as per EB 65)

Table 7-3: Websites used

Reference	Link	Organization
/dna/	www.energy.gov.za/files/esources/kyoto/kyoto_frame.html	DNA of South Africa
/durban/	www.durban.gov.za/	eThekweni Municipality Official Website
/gov/	www.energy.gov.za/	Department of Energy, South Africa
/unep/	http://cdmpipeline.org/	UNEP RISO CDM Pipeline
/RET/	http://www.retscreen.net/ang/home.php	Natural Resources Canada
/TECH/	http://www.solardirect.com/swh/swh.htm http://www.rhincensive.co.uk/library/regulation/1103AEA_Update.pdf	Solardirect Rhincensive
/unfccc/	http://cdm.unfccc.int	UNFCCC

Table 7-4: List of interviewed persons

Reference	Mol ¹		Name	Organization / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Derek Morgan	eThekweni Municipality/ Senior Manager
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Sifundo Lungu	eThekweni Municipality/ Project Officer
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Nomusa Ntombela	eThekweni Municipality/ Superintendant



Reference	Mol ¹		Name	Organization / Function
/IM01/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Niki Diedericks	eThekwini Municipality/Project Manager
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Susanna Godehart	eThekwini Municipality/ Consultant
/IM01/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Joslin Andrews	Deloitte/ Consultant
/IM02/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Rosalind Dos Santos	Deloitte/ Consultant
/IM04/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Lisa Ramese	Tender
/IM04/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Lucelle Ramese	Manager
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Wirenig Zulu	End-user /Commite Member
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Mzwinde G Mkhila	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Albert B. Shabalala	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Merse Chuliza	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Khosi Kublieka	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Mapaomuco Sibisaiso	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Ntuli Nontobeko	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Hgcobo Mduduzi	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Thobani	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Thulani	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr.	Thabiso	End-user



Reference	Mol ¹		Name	Organization / Function
		<input type="checkbox"/> Ms		
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Xolani Melane	End-user
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Tanya Dayaram	End-user
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Andele Mbele	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Clinton Sackson	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Magasu Naiboo	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Forin Wahab	End-user
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Amisha Maharaj	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Sashnee Richards	End-user
/IM03/	V	<input checked="" type="checkbox"/> Mr. <input type="checkbox"/> Ms	Viloshnee Doorsamy	End-user
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Sharna Gorender	End-user
/IM03/	V	<input type="checkbox"/> Mr. <input checked="" type="checkbox"/> Ms	Thasleem Sherriff	End-user

¹⁾ Means of Interview: (Telephone, E-Mail, Visit)

ANNEX

- A1:** Validation Protocol
- A2:** Assessment of Applicability Criteria
- A3:** Assessment of Baseline Identification
- A4:** Assessment of Financial Parameters
- A5:** Assessment of Barrier analysis
- A6:** Outcome of the GSCP
- A7:** Eligibility Criteria Assessment
- A8:** Statement of competence of involved Personnel



ANNEX 1: VALIDATION PROTOCOL

Table A-1: Programme Requirements Checklist

Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
A. General Description of the Programme of Activities				
A.1. Technology to be employed <i>Validation of programme technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The DOE should ensure that environmentally safe and sound technology and know-how is used.</i>				
<p>A.1.1. Does the PoA-DD contain a clear, accurate and complete PoA description?</p> <p>(VVS, v. 2.0, §§ 64, 69)</p> <p><i>The PoA-DD shall contain a clear description of the project activity which provides the reader with a clear understanding of the precise nature of the programme activity and the technical aspects of its implementation.</i></p> <p><i>Pl. consider esp. chapters A.1, A.3 (in case of LSC) for</i></p>	<p>/PoA-DD01/ /IM01/</p>	<p><i>Description:</i> The small-scale Programme of Activities aims to install solar water heaters and heat pumps at residential facilities throughout South Africa. The description is given in section A.2 of the PoA-DD.</p> <p><i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD and technical data of the programme in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p>	<p>GL PoA-A4</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>assessment.</i></p> <p>§69 (a) Describe the process undertaken to validate the accuracy and completeness of the programme description.</p> <p>§69 (b) Contain the DOE's opinion on the accuracy and completeness of the programme description.</p>		<p><i>Conclusion:</i> Following findings were identified:</p> <ol style="list-style-type: none"> 1. The categories of implemented framework for PoA are not clearly described. 2. The allocation of categories to income groups is not clear. 3. The general description of applied discounts, rebate charges and sources of financing are not clear. 4. The description of implementation of project activity in existing as well as new residential units was missing. 5. The description of social contribution to sustainable development is not clear in regards to reduction of dependence from fossil fuels. 		
<p>A.1.2. Does the PoA-DD contain a clear, accurate and complete definition (including measures/ technology(ies)) to be employed of a CPA under the PoA?</p> <p>(VVS, v. 2.0, § 189)</p>	/PoA-DD01/ /IM01/	<p><i>Description:</i> A comprehensive description of technology and technical aspects to be employed in a CPA under the PoA is given in section A.6 of the PoA-DD.</p> <p>The proposed PoA may be composed by CPAs that consist in installations of solar water heaters and heat pumps in existing residential facilities in South Africa:</p> <p><i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD and technical data of the programme in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> Following findings were raised in regards to technical</p>	GAR PoA-A2	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<p>aspects to be employed in a CPA under the PoA:</p> <ol style="list-style-type: none"> 1. The design criteria for heat pumps were not defined. 2. The choice of suppliers and tech details of SWH units and pumps was not described. 3. Evidence: Eskom documents for subsidy details were not provided. 		
A.1.3. Is this description in accordance with the real situation or (in case of greenfield projects) is it most likely that the PoA and the CPAs will be implemented acc to the descriptions in the PoA-DD and the CPA-DD?	/PoA-DD01/ /IM01/	<p><i>Description:</i> Yes, the PoA and CPA are described sufficiently will be implemented according to the descriptions in the PoA-DD and the CPA-DD.</p> <p><i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD and technical data of the programme in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> The project will be most likely be implemented according to the project description.</p> <p>Nonetheless the following findings were raised:</p> <ol style="list-style-type: none"> 1. The possible use of decommissioned tanks and geysers fitted with electrical heating elements was not provided. 2. The figures for integrated and split system were not provided 	CAR POA- A4	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		3. The baseline for low income / communities where there is no grid availability was not defined		
A.1.4. In case the programme involves alteration of an existing installation or process, is a clear description available regarding the differences between the programme and the pre-programme situation? (VVS, v. 2.0, § 68) <i>Describe the steps taken to validate this issue.</i>	/PoA-DD01/ /CPA1-DD01/ /IM01/ /METH/	<i>Description:</i> The PoA replaces existing electrical hot water geysers with installation of install solar water heater or heat pumps in residential buildings where no such installation existed. <i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD and technical data of the programme in detail and carried out interviews with technical and operational personnel of the project and the project consultants. In addition the applied methodology was reviewed. <i>Conclusion:</i> Following findings were raised: 1. The possible use of decommissioned tanks and geysers fitted with electrical heating elements was not provided. 2. The figures for integrated and split system were not provided 3. The baseline for low income / communities where there is no grid availability was not defined	CAR PoA-A4	OK
A.1.5. Has a sufficient description of the general operating and implementing framework of the PoA and its CPAs been given? (VVS, v.2.0, §189)	/PoAD01/ /IM01/	<i>Description:</i> A comprehensive general operating and implementing framework of the PoA and its CPAs is given in section A.3 of the PoA-DD. <i>Validator's action:</i> For the assessment, the validation team reviewed the PoA-DD and technical data of the programme in detail and carried out interviews with technical and operational personnel of the	CAR PoA-A3	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		project and the project consultants. <i>Conclusion:</i> Refer to CAR PoA-A3		
A.2. Small scale project activity <i>It is assessed whether the project qualifies as small-scale CDM PoA</i>				
A.2.1. Does the programme fall within the small scale project activity threshold and applies a large-scale approved methodology? In this case, are the modalities and procedures for large-scale project activities followed? (VVS, v. 2.0, § 151)	/PoA-DD01/ /METH/ /IM01/	<i>Description:</i> The project is a small-scale project activity and applies small-scale methodologies AMS I J version 01 and AMS II C. version 13. <i>Validator's action:</i> For the assessment, the validation team reviewed the PoA-DD, applied methodologies and technical data of the programme in detail and carried out interviews with technical and projectoperational of project participants and the project consultants. <i>Conclusion:</i> The program falls within the small scale project activity threshold and applied SSC methodologies.	OK	OK
In case of project activities applying a LSC-Methodology, go to B.1				
A.2.2. Does the programme qualify as a small scale PoA as defined in decision 4 / CMP.1 annex II? (VVS, v. 2.0, §§ 150–152) <i>Please indicate whether the CPAs meet the eligibility criteria</i>	/PoA-DD01/ CPA1-DD 01/ /METH/	<i>Description:</i> The programme is a small-scale project activity and applies small-scale methodologies AMS I J and AMS II C. The small scale threshold for the methodology applied by the solar water heaters is 45 MW thermal. The definitions in paragraph 4(d) in the 'General Guidelines to SSC CDM methodologies' (version 15) was applied to identify the SSC threshold. The small-scale threshold	GL PoA-B3	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>for small scale-projects. Especially consider whether the CPAs qualify within the thresholds of the three possible types of small-scale project activities</i>	/SPEC/ /IM01/	for SWH projects in terms of aperture area is 64000 m ² . The small scale threshold for the methodology applied for the heat pumps is 60 GWh energy saving per year. <i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD, applied methodologies and technical data of the programme in detail and carried out interviews with technical and project operational personnel of project and the project consultants. <i>Conclusion:</i> The definition of SSC threshold for each CPA and the maximal number of SWH or/and pumps for reaching the threshold was not clear.		
A.2.3. Does the PoA make provisions for each CPA not to exceed the applicable threshold throughout the crediting period? (EB 65, Annex 3, §14 (k))	/PoA-DD01/ /METH/ /IM01/	<i>Description:</i> Only CPAs that do not exceed the threshold are eligible for inclusion in the PoA. <i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD, applied methodologies and technical data of the program in detail and carried out interviews with technical and operational personnel of the project and the project consultants. <i>Conclusion:</i> Refer to A.2.2.	CL PoA-B3	OK
A.2.4. Are possible cross effects between CPAs (when applying multiple small scale methodologies) taken into account appropriately? (EB 65, Annex 3, §28)	/PoA-DD01/ /POAS/ /IM01/	<i>Description:</i> To account for the use of multiple methodologies, the 'Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)' was applied to assess the cross effects. Measures and provisions were described to eliminate the possibility of cross effects. <i>Validator's action:</i> For the assessment the validation team reviewed	CL PoA-B2	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<p>the PoA-DD, applied methodologies and technical data of the program in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> Possible cross effects are taken into consideration as per 'Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)'. Nevertheless approval of the combination of the methodology was not evidenced. CAR B2 was raised.</p> <ol style="list-style-type: none"> 1. The acceptance from UNFCCC for combinations of AMS I J and AMS II C is not clear. 2. The combination of different technologies in the same CPA was not described/clear 		
<p>A.2.5. Does the programme apply one of the approved small scale categories and any methodology(ies) and tool(s) referred therein?</p> <p>(VVS, v. 2.0., § 152 (b))</p> <p><i>Check, if applicable the expiry dates of the applied methodology(ies). Further, take into consideration the general guidance to the methodologies¹, which provide</i></p>	<p>/PoA-DD01/ /METH/ /TOOL/ /IM01/</p>	<p><i>Description:</i> The project applies the baseline and monitoring methodology AMS) I.J 'Solar water heating systems (SWH)' Version 01, EB 60 and (AMS) II.C 'Demand-side energy efficiency activities for specific technologies' Version 13, EB as well as standard: "Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities" (Version 01.1, EB 65, Annex 3); methodological tool: "Tool to calculate the emission factor for an</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>guidance on equipment capacity, equipment performance, sampling and other monitoring related issues.</i>		<p>electricity system” – version 02.2.1 and follows the “Simplified Modalities and Procedures for Small-Scale Clean Development Mechanism Project Activities.” They are all approved, valid and are derived from the UNFCCC CDM website.</p> <p><i>Validator’s action:</i> For the assessment, the validation team reviewed the PoA-DD, applied methodologies and technical data of the program in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> The programme applies approved small-scale methodologies and tool(s) referred on the UNFCCC website.</p>		
<p>A.2.6. Are the small scale CPAs not debundled components of a larger project activity?</p> <p>(VVS, v. 2.0, §203 and EB 65, Annex 3, § 14(I))</p> <p><i>Describe the steps taken to assess whether the CPA is not a debundled component of a large scale activity, in accordance to the “Guidelines on assessment of debundling for SSC project activities”.</i></p> <p><i>In case each of the independent subsystems/measures included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology (i.e. 150kW, 0.6 GWh, 0.6 ktCO₂e), then that CPA of the PoA is exempted from the de-bundling check, i.e. is considered as not being a debundled component of a large-scale activity</i></p>	<p>/PoA-DD01/ /IM01/ /CPA1-DD01/ /EB 54 Annex 03/</p>	<p><i>Description:</i> The ‘Guidelines on Assessment of Debundling for SCC Project Activities’ (Version 3, EB 54) was used to demonstrate that the SSC-CPA included in the PoA is not a de-bundled component of another CDM Programme Activity (CPA) or CDM project activity. As demonstrated in the PoA-DD and CPA1-DD each of the independent subsystems/measures included in the CPA of a PoA is no larger than 1% of the small-scale thresholds defined by the methodology.</p> <p><i>Validator’s action:</i> For the assessment, the validation team reviewed the PoA-DD, applied methodologies and technical data of the program in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> The SSC CPA is not a debundled component of larger project as per EB 54 ‘Guidelines on Assessment of Debundling for SCC Project Activities’.</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
A.3. Definition of a typical Component Project Activity (CPA) <i>The description of a typical CPA is assessed. The eligibility criteria shall be checked for appropriateness and completeness.</i>				
A.3.1. Has the PoA-DD unambiguously defined a CDM programme activity (CPA) under the PoA?	/PoA-DD01/ /IM01/	<p><i>Description:</i> Yes, the PoA consists of 2 kinds of equipment installation in the CPAs:</p> <ol style="list-style-type: none"> 1. Solar water heaters or heat pumps to community residential units and solar water heaters to low income households. 2. Solar water heaters and heat pumps to middle and high income households. <p><i>Validator's action:</i> For the assessment, the validation team has reviewed the PoA-DD and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> The PoA-DD unambiguously defines a CDM programme activity.</p>	OK	OK
A.3.2. Does the PoA-DD contain a clear, accurate and complete description of the CPAs with regard to the technology / measures to be used? <i>The PoA-DD shall contain a clear description of a typical CPA which provides the reader with a clear understanding of</i>	/PoA-DD01/ /IM01/ /METH/	<p><i>Description:</i> Section A.6 of the PoA-DD includes description of technology and technical aspects to be employed in a CPA under the PoA. However as indicated above (finding CAR PoA-A2) the technical description is not complete. Further, the applicability of retrofitting under different project scenario was not consistently described in the PoA DD and generic CPADD.</p>	CAR PoA-A2 CAR PoA-B5	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>the precise nature of the project activity and the technology / measure to be used.</i></p> <p><i>Describe the process undertaken to validate the accuracy and completeness of the CPA description.</i></p>		<p><i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD and technical data of the programme in detail and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> Refer to CAR PoA-B5 and CAR PoA-A2.</p>		
A.3.3. Is all necessary information consistent between the finalized PoA-DD and the Generic CPA-DD?	/PoA-DD/ /IM01/	<p><i>Description:</i> Yes, the PoA-DD and Generic CPA-DD are consistent with each other, and the characteristics that are required in the PoA are also described in the Generic CPA.</p> <p><i>Validator's action:</i> For the assessment, the validation team reviewed the PoA-DD and carried out interviews with technical and operational personnel of the project and the project consultants.</p> <p><i>Conclusion:</i> OK</p>	OK	OK
A.3.4. Does the generic CDM-CPA-DD include Name/contact details of the entity/individual responsible for the operation of the CPA?	/PoA-DD01/	<i>Not applicable as the entity/individual responsible will be set at each CPA.</i>	N/A	OK
A.3.5. Does the definition of eligibility criteria for inclusion of a CPA under the PoA include the following information:	/PoA-DD/ /PS/	<i>Description:</i> All eligibility criteria have been clearly described, esp. w.r.t. the following points, and detailed assessments are included in Annex 7 of this report:	CAR PoA-C4 CL	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>i) appropriate criteria for demonstration of additionality of the CPA, and</p> <p>ii) all type and/or extent of information (e.g. criteria, indicators, variables, parameters or measurements) that shall be provided by each CPA in order to ensure its eligibility?</p> <p>(EB 65, Annex 3, §§ 8,9,10,11,12,13,14)</p> <p><i>Assess the specified eligibility criteria in the POA-DD in order to determine whether or not these criteria are sufficient to ensure that all CPAs would comply with the CDM requirements applicable to the PoA, these requirements shall include, inter alia,</i></p> <ul style="list-style-type: none"> <i>the means of demonstrating the additionality of the CPA and</i> <i>the applicability of the applied methodology.</i> <p><i>The eligibility criteria represents an essential element of ensuring the smooth functioning of programmatic CDM, therefore the validation team may raise CARs which ensure the ease of application of the eligibility criteria. (EB 65 annex 3 para 14 Footnote 2).</i></p> <p><i>Detailed assessment on the final criteria are included in the dedicated Annex A-6 of this report.</i></p>		<p>(1) Geographical requirement of the CPA boundary</p> <p>(2) Confirmation of no double-counting</p> <p>(3) Technical requirement of the CPA, including procurement</p> <p>(4) CPA start date not before PoA webhosting date</p> <p>(5) Methodology applicability requirement of the CPA</p> <p>(6) Other methodological / tool requirement of the CPA,</p> <p>(7) The additionality assessment criteria for each CPA are met including Loca stakeholder consultation prior to inclusion on the CPA</p> <p>(8) Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance</p> <p>(9) The target group and distribution mechanism</p> <p>(10) The conditions related to sampling requirements for a PoA</p> <p>(11) 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>(12) The requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.</p> <p>(13) Right to the carbon credits</p> <p>(14) Monitoring of calibrations requirement of the CPA</p> <p>Eligibility details are included in Annex 1-6.</p> <p><input checked="" type="checkbox"/> Not all eligibility criteria have been clearly described and following findings have been raised accordingly (after successful closure of all the findings, detailed assessments are to be included in</p>	<p>PoA-A1</p> <p>CAR</p> <p>CPA-B4</p>	



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<p>Annex 7 of the final report):</p> <p><i>Validator's action:</i> The PoA-DD has been checked against the PoA Standard.</p> <p><i>Conclusion:</i> Following findings were identified:</p> <ul style="list-style-type: none"> (1) CL PoA-A1: allocation of income categories is not clear (eligibility criterion No. 9) (2) CAR PoA-C1: The starting date is not in line with CDM glossary of terms (eligibility criterion No.4) (3) CAR CPA-B1: evidence of household electricity bills for confirmation of only domestic use. 		
<p>A.3.6. Are the eligibility criteria defined verifiable, sufficiently objective and do allow to assess the inclusion of CPAs in the PoA?</p> <p>(EB 65, Annex 3, §§ 15,16)</p>	<p>/PoA-DD01/ /PoAS/</p>	<p><i>Description:</i> The established criteria are mostly verifiable and objective. Nevertheless see A.3.6</p> <p><i>Validator's action:</i> The PoA-DD has been checked against the PoA Standard.</p> <p><i>Conclusion:</i> The eligibility criteria are defined verifiable, sufficiently objective and do allow the assessment of the inclusion of CPAs in the PoA.</p>	<p>CAR PoA-C1 CL PoA-A1 CAR CPA-B1</p>	OK
<p>A.3.7. In case of combination of technologies/measures and or methodologies:</p>	<p>/PoA-DD01/</p>	<p><i>Description:</i> The project will install low pressure and high pressure solar water heaters as well as heat pumps. Accordingly two methodologies AMS I J and AMS II C were applied respectively.</p>	<p>CAR PoA-A7</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
have distinct eligibility criteria been developed for each type of CPA? (EB 65, Annex 3, §§ 20,29)	/METH/ /PoAS/	<i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD and applied methodology as well as carried out interviews with technical and operational personnel of the project and the project consultants. <i>Conclusion:</i> Distinct eligibility criteria have been developed for each type of technology. Nevertheless The SABS standard for applied technology was not provided. Furthermore, the acceptance from UNFCCC for combinations of AMS I J and AMS II C is not clear. The combination of different technologies in the same CPA was not described/clear CL PoA-B2.	CL PoA-B2	
A.3.8. In case of combination of technologies/measures and or methodologies: have provisions been made to ensure the compliance of a CPA using technologies/measures from several methodologies with all the eligibility criteria derived from the requirements of all the methodologies and are those described in the PoA-DD? (EB 65, Annex 3, §§ 27)	/PoA-DD01/ /METH/ /PoAS/	<i>Description:</i> Refer to A.3.7 <i>Validator's action:</i> <i>Conclusion:</i>	GAR PoA-A7 CL PoA-B2	OK
B. Project Baseline, Additionality and Monitoring Plan				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
B.1. Reference of the Methodology				
B.1.1. Do the PoA-DD and the generic CPA-DD correctly quote an applicable version of the methodology? (VVS, v. 2.0, § 74)	/METH/ /PoA-DD01/	<input checked="" type="checkbox"/> The applied methodology is correctly quoted and is identical to the version available on the UNFCCC website. <input checked="" type="checkbox"/> The applied version of the baseline and monitoring methodology is applicable and valid at the time of submission for stakeholder consultation.	OK	OK
B.2. Applicability of the Methodology				
B.2.1. Does the programme apply (an) PoA-approved and applicable CDM methodology(ies) and (a) valid version(s) thereof? (VVS, v. 2.0, §§ 70, 74, 76, 77) <i>Describe the steps taken to validate this issue.</i> <i>Describe for <u>each</u> applicability criterion listed in the selected approved methodology the steps taken to assess its fulfillment</i>	/PoA-DD01/ CPA-DD01/ /METH/ /unfccc/	<input checked="" type="checkbox"/> The applied methodology is correctly quoted and is identical to the version available on the UNFCCC Website. <input checked="" type="checkbox"/> The applied version of the baseline and monitoring methodology is valid at the time of submission for stakeholder consultation. <input type="checkbox"/> All applicability criteria in the methodology, the applied tools or any other methodology component referred to therein are fulfilled (please make detailed assessment in Annex 2 of this protocol). Refer to Annex 2.	CAR PoA-B5 CL PoA-B3 CAR CPA-B11 CAR CPA-B2	OK
B.2.2. In case of multiple methodologies: do the PoA-	/PoA-	<i>Description:</i> The project is applying two methodologies ASM I J and	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
DD and the generic CPA-DD list all combinations of technologies/measures and/or approved methodologies that will be implemented in the PoA and define separate eligibility criteria for each of them? (EB65, Annex 3, §26)	DD01/ /METH/ /PoAS/	AMS II C. Combination of applied technology is not clearly described. <i>Validator's action:</i> The PoA-DD has been reviewed against the applied methodologies. <i>Conclusion:</i> As indicated in B.2.1. above, the published PoA-DD demonstrates eligibility of the CPA to meet the eligibility criteria outlined in the PoA Standard.		
B.2.3. In case of multiple methodologies: is the combination of technologies/measures and/or methodologies approved? (EB 65, Annex 3, §§29,30,32,33)	/PoA-DD01/ /PoAS/	<i>Description:</i> To account for the use of multiple methodology 'Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)' was applied to assess the cross effects. Measures and provisions were described to eliminate the possibility of cross effects. <i>Validator's action:</i> For the assessment the validation team reviewed the PoA-DD, applied methodologies and technical data of the program in detail and carried out interviews with technical and operational personnel of the project participants and the project consultants. <i>Conclusion:</i> No cross effects are taken into consideration as per 'Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)'. Each household will have either heat pump or solar water heater in the PoA. Nevertheless refer to A.2.4	CL PoA-B2	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
B.2.4. In case one or more applicability criteria of the methodology(ies) have not been met, has the validation team requested clarification to, revision of or deviation from the methodology(ies) in accordance with the latest guidelines? (VVS, v. 2.0, §§ 78-81)	/PoA-DD01/ CPA-DD01/ /METH/	<i>Description:</i> Refer to B.2.1. <i>Validator's action:</i> <i>Conclusion:</i>	CAR PoA-B5 CL PoA-B3 CAR CPA-B11 CAR CPA-B2	OK
B.3. PoA and CPA Boundaries <i>Project Boundaries are the limits and borders defining the GHG emission reduction programme</i>				
B.3.1. Are the PoA's spatial boundaries (geographical) within which all CPAs included in the PoA will be implemented clearly defined? (VVS, v. 2.0, §§ 72 (a), 82, 191) <i>Provide information on how the validation of the geographical boundary has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i>	/PoA-DD01/ /CPA1-DD01/ /GUIDE /	<i>Description:</i> The spatial boundary of the PoA is defined and consequently that of the CPAs is clearly defined. Any CPA to be eligible for inclusion has to be located in South Africa. CPA1 is located in eThekweni Municipality. <i>Validator's action:</i> Section A.5 of the PoA-DD was checked against the requirements of PoA-DD completion guidelines. <i>Conclusion:</i> For CPA1 the geo-coordinates were not provided. See CL PoA-A5	CL PoA-A5	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.3.2. Are all sources and GHGs included in the PoA/CPA boundary as required in the applied methodology?</p> <p>(VVS, v. 2.0, §§ 82, 84)</p> <p><i>Provide information on how the validation of the GHGs and sources has been performed either based on reviewed documented evidence or by describing what was observed/viewed during a site visit.</i></p>	/PoA-DD01/ /METH/	<p>Description: Yes, all sources and GHGs included in the project boundary are included in the table in section B.3 of the generic CPA-DD.</p> <p>Validator's action: The PDD was checked against sources and gases defined in AMS I.J and AMS II.C.</p> <p>Conclusion: The sources are in compliance with the applied methodologies as well as with the real situation.</p>	OK	OK
<p>B.3.3. In case the methodology allows to choose whether a source and/or gas is to be included, is the choice sufficiently explained and justified?</p> <p>(VVS, v. 2.0, §§ 84, 87)</p> <p><i>Confirm if the adequacy provided by the PPs is reasonable, based on assessment of supporting documented evidence provided by the PPs or by onsite observations.</i></p>	/METH/	<p>Not applicable, since the methodology does not require such choices.</p>	N/A	OK
<p>B.3.4. Are provisions in place in case the implementation of a CPA might lead to emissions contributing more than 1% of the overall expected average annual emissions reductions within the project boundary and which are not addressed by the selected approved methodology?</p>	/PoA-DD01/ /XLS/ /CPA-DD01/ /METH/	<p>Description: The project emissions with regard to the real situation are accounted for in the PE calculation provided in both methodologies. Hence the CPA1 is not expected to generate emissions beyond those accounted for.</p> <p>Validator's action: The CPA1-DD was reviewed based on the provision in the applied methodologies for project emissions..</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
(VVS, v. 2.0, § 87) <i>Describe the steps taken to validate this issue. If any emission sources that are expected to contribute more than 1% have been identified, the DOE shall request clarification of, revision to, or deviation from the methodology, as appropriate.</i>		<i>Conclusion:</i> No project emissions beyond those accounted for the ER calculation.		
B.4. Baseline Identification <i>The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.</i>				
B.4.1. Has the baseline scenario been determined according to the methodology? (VVS, v. 2.0, §§ 72 (b), 89, 87(e)) <i>Describe how it is validated that the identification of the most plausible baseline scenario is carried out in accordance with the applied methodology and applied methodological tools. Please refer to table A-2.</i>	/METH/ /BE/	<input checked="" type="checkbox"/> The baseline is defined by the applied methodology and the PoA-DD refers to it. If the answer is Yes, continue to B.4.5 <input type="checkbox"/> The baseline is not directly defined by the applied methodology. For details of the assessment regarding the evaluation of the baseline scenario pl. refer to table A-2. <input type="checkbox"/> The determination has been carried out as per the procedure contained in the applied methodology. <input type="checkbox"/> The following CARs / CLs have been identified with respect to	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		the selection of the baseline scenario: <i>Not applicable, as the baseline is given by the methodology.</i>		
B.4.2. Is the list of alternatives complete? (VVS, v. 2.0, § 90) <i>Describe how it was validated that all alternatives are plausible and that any scenarios that are supplementary to those required by the methodology are realistic and credible in the context of the project activity and that no alternative scenarios have been excluded.</i> <i>Fill in all alternatives in table A-2.</i>	/METH/	<input type="checkbox"/> All plausible alternative scenarios listed in the approved methodology have been considered. In the course of document review and site visit, it has been validated that no other alternatives which supply comparable outputs and / or services are to be taken into consideration. Thus no plausible scenario has been excluded. <input type="checkbox"/> The following alternative scenarios/options have been omitted. Corresponding CAR(s)/CL(s) has /have been issued <i>Not applicable, as the baseline is given by the methodology.</i>	N/A	OK
B.4.3. Is the identified baseline scenario reasonable considering all possible types of CPAs and has the baseline scenario been determined using conservative assumptions where possible, including relevant references and sources? (VVS, v. 2.0, § 91) <i>Describe whether the choice of the identified baseline scenario is reasonable by validating the <u>key assumptions, calculations and rationales</u> used in the PoA-DD. Describe whether these are listed, relevant and <u>conservatively interpreted</u> in the PoA-DD.</i>	/METH/	<input type="checkbox"/> The baseline scenario is reasonable and has been determined using conservative assumptions where possible. Please refer to comments in table A-2. <input type="checkbox"/> The following CARs / CLs have been issued because assumptions used in the baseline determination have been assessed to be not conservative <i>Not applicable, as the baseline is given by the methodology.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.4.4. Does the baseline scenario sufficiently take into account all relevant national and/or sectoral policies within the chosen project boundary such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector.?</p> <p>(VVS, v. 2.0, §§ 93, 192)</p> <p><i>Describe whether the PP has shown that all relevant policies and circumstances have been identified and correctly considered in the PoA-DD. Two (2) types of national and/or sectoral policies have to be taken into account:</i></p> <p>(a) <i>National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels, known as E+ policies. For this type of national and/or sectoral policies or regulations, only those that have been implemented before adoption of the Kyoto Protocol by the COP (decision 1/CP.3, 11 December 1997) shall be taken into account</i></p> <p>(b) <i>National and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions-intensive technologies (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programmes), known as E- policies. For this type of national and/or sectoral</i></p>	/METH/	<p><i>t applicable, as the baseline is given by the methodology.</i></p>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>policies or regulations, those that have been implemented since the adoption by the COP of the CDM M&P (decision 17/CP.7, 11 November 2001) need not be taken into account in identifying a baseline scenario.</i>				
B.4.5. What has been identified as the baseline scenario? Does the PoA-DD contain a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM programme activity?. (VVS, v. 2.0, § 88)	/PoA-DD01/ CPA1-DD01/ /METH/ /BE/ /TOOL/	<p><i>Description:</i> The PoA-DD contains a verifiable description of the continued use of the electrical geyser and electric kettles for heating water in households.</p> <p><i>Validator's action:</i> The PoA-DD has been checked against applied methodology and tools.</p> <p><i>Conclusion:</i> The baseline is consistent with the applied methodologies. Nevertheless following findings were raised:</p> <p>CAR PoA-A6</p> <ol style="list-style-type: none"> 1. No use of paraffin or fossil fuels in the baseline was witnessed. Pls clarify. 2. Reference for penetration of market by the technology was not described. 3. Details of technologies were not provided. <p>CAR PoA-A8: List of Eskom database for end-users was not submitted. Sample electricity bills for low or communities were not</p>	<p>CAR PoA-A6</p> <p>CAR PoA-A8</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		provided.		
B.5. Additionality Determination <i>The assessment of additionality will be validated with focus on whether the programme / CPA itself is not a likely baseline scenario.</i>				
B.5.1. Methodology				
<p>B.5.1.1. Does the PoA-DD describe how the programme is additional (i.e. that none of the implemented CPAs would occur in absence of the CDM) and does the additionality justification follow the requirements of the applied methodology and/or methodological tools?</p> <p>(VVS, v. 2.0, §§ 72 (d), 101-102 and EB65, Annex 3, §7)</p> <p><i>Describe how it is validated that the additionality justification is carried out in accordance with the applied methodology and/or applied methodological tools. Further focus your assessment on the reliability and credibility of data, rationales and assumptions, justifications and documentations provided by the PP.</i></p>	<p>/PoA-DD01/ /PoAS/ /ADD/</p>	<p><i>Description:</i> The 'Standard for the demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (Version 01.1, EB 65, Annex 3)' was used to determine additionality for the PoA.</p> <p><i>Validator's action:</i> The PoA-DD has been checked against PoA Standard and applied tools.</p> <p><i>Conclusion:</i> (CAR PoA-B4)</p> <ol style="list-style-type: none"> 1. Additionality was not demonstrated by using guidance EB 35. Annex 34. 2. The generic statement about the customer confusion etc doesn't allow common reader to understand the applicability of the presented barrier. 3. Additionality supporting documents were not referenced. 	CAR PoA-B4	OK
B.5.2. Assessment and Demonstration of				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
Additionality of the PoA as a whole				
<p>B.5.2.1. Has it been demonstrated that:</p> <ul style="list-style-type: none"> in the absence of the CDM the proposed voluntary coordinated action would not be implemented, or in the absence of the CDM the mandatory policy/regulation would be systematically not enforced and that non-compliance with those requirements is widespread in the country/region, or the PoA will lead to a greater level of enforcement of the existing mandatory policy /regulation. 	<p>/PoA-DD01/ /PoAS/ /ADD/ /gov/</p>	<p><i>Description:</i> The stated goal of the related CDM programme activity is defined in the PoA-DD and tries to demonstrate the following situation in the absence of the programme activity:</p> <p><input checked="" type="checkbox"/> The proposed voluntary measure would not be implemented.</p> <p><input type="checkbox"/> The mandatory policy/regulation would be systematically not enforced and that non-compliance with those requirements is widespread in the country/region.</p> <p>The PoA is not a mandatory policy or regulation and, as such, this is not applicable.</p> <p><input type="checkbox"/> The PoA will lead to a greater level of enforcement of the existing mandatory policy /regulation.</p> <p>The PoA is not a mandatory policy or regulation and, as such, this is not applicable.</p> <p><i>Validator's action:</i> The PoA-DD has been checked against PoA Standard and South African regulations for the electric sector.</p> <p><i>Conclusion:</i> At PoA level it is established all assumptions that lead to the conclusion that in the absence of the CDM, the PoA would not be</p>	<p>GAR PoA-B4</p>	<p>OK</p>

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Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
Additionality Investment analysis Step 2 <i>In case the investment analysis as per step 2 is chosen to justify the additionality Annex 4 "Assessment of Financial Parameters" has to be used to provide additional details of the calculation parameters..</i>				
B.5.4.1. Does the project documentation provide evidence that the project would not be the most economically or financially attractive alternative or economically / financially feasible without the revenues from the sale of CERs? (VVS, v. 2.0, § 117) <i>In cases where the project activity would produce no financial or economic benefits other than CDM-related income, describe how it has been validated that at least one of the alternatives identified is less costly than the proposed project activity.</i>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
B.5.4.2. Is a clear, viewable and unprotected Excel spreadsheet available for the investment calculation? (EB 62 Annex 5 , §8) <i>Describe the steps taken to validate this issue.</i>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.5.4.3. Does the period chosen for the investment analysis reflect the technical lifetime of the project activity or in case a shorter period is chosen, is the fair value of the project activity's assets at the end of the investment analysis period (as a cash inflow) included?</p> <p>(EB 62 Annex 5 § 3) <i>Describe how the technical lifetime / period chosen for calculating financial parameter(s) is reviewed and which documents were utilized in the course of review. Describe furthermore the approach used to check the inclusion of a potential fair value.</i></p>	/PoA-DD01/	<p><i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i></p>	N/A	OK
<p>B.5.4.4. Is the fair value calculated in accordance with local accounting regulations (where available) or international best practice?</p> <p>(EB 62 Annex 5, § 4) <i>State the accounting regulations applied for calculating the fair value and describe why these are applicable under the project specific circumstances. Describe potential mismatches between regulations and the approach applied for calculating the fair value.</i></p>	/PoA-DD01/	<p><i>Not applicable as the Additionality analysis will be done at CPA level.</i></p>	N/A	OK
<p>B.5.4.5. Is the book value as well as the expectation of the potential profit or loss</p>	/PoA-DD01/	<p><i>Not applicable as the Additionality analysis will be done at CPA level.</i></p>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
included in the fair value calculation? (EB 62 Annex 5, § 4)				
<p>B.5.4.6. Is an appropriate analysis method chosen for the project (simple cost analysis, investment comparison analysis or benchmark analysis)?</p> <p>(EB 65 Annex 21, EB 62, Annex 5, §19)</p> <p><i>Describe why the selected analysis method is appropriate under consideration of potential revenues and costs, potential project alternatives and potential available benchmark values.</i></p> <p><i>Assess whether the alternative to the CPA is to supply the same or substitute products or services. In this case, an investment comparison analysis shall be used.</i></p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
<p>B.5.4.7. Were the input values used in the investment analysis valid and applicable at the time of the investment decision?</p> <p>(EB 62 Annex 5, § 6)</p> <p><i>Describe the steps taken to validate this issue</i></p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
<p>B.5.4.8. Are the input parameters based on values from Feasibility Study Reports that are approved by national authorities for</p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
proposed project activities? (VVS, v. 2.0, § 122) <i>In case the basis for input values is a Feasibility Study Report (FSR) describe how it has been ensured that the period in time between the finalization of the FSR and the investment decision is sufficiently short so that it is unlikely that input values would have materially changed. Further confirm the consistency of values in FSR and POA-DD.</i>				
In case a simple cost analysis has been done, go to B.4.5				
B.5.4.9. Has been a suitable financial indicator chosen by the project participants? (VVS, v. 2.0, § 120 (a)) <i>Describe the steps taken to validate this issue.</i>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
B.5.4.10. Are depreciation and other non-cash related items only considered in the tax calculation and not as cash outflow? (EB 62 Annex 5, § 5)	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
B.5.4.11. Is the plant load factor (PLF) chosen in a conservative manner, taking into account that the PLF may be different in the	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
framework of demonstrating additionality and calculating the ex-ante ER? (EB 48, Annex 11)				
B.5.4.12. Does the CPA-DD and related spreadsheets contain a sensitivity analysis and does the same contain variation of parameters which may vary throughout the project lifetime? (EB 62 Annex 5, § 20-21) <i>Describe relevance of parameters used in the sensitivity analysis as well as their likeliness to vary during the project's lifetime. Parameters which are fixed on the basis of contracts, PPAs etc. may not be subject to variation and not adequate.</i>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
B.5.4.13. Were only variables that constitute more than 20% of either total project costs or total project revenues subjected to reasonable variation? (EB 62 Annex 5, § 20)	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
B.5.4.14. Have parameters, constituting less than 20% of total project costs or revenues, been identified with potential material impact on the financial parameter? (EB 62 Annex 5, § 20)	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>Describe whether those parameters are considered in the sensitivity analysis?</i>				
<p>B.5.4.15. Is the range of variation reasonable in the specific context of the project activity, taking into consideration historic trends in the business sector?</p> <p>(EB 62 Annex 5, § 21)</p> <p><i>Describe whether the range of variation is appropriate with focus on historic developments, e.g. price of oil / labour etc., energy potential in the region in question.</i></p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
<p>B.5.4.16. In case of project IRR: Are the costs of financing expenditures (loan repayments and interests) excluded from the calculation of project IRR?</p> <p>(EB 62 Annex 5, § 9)</p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
<p>B.5.4.17. In case of equity IRR: Is the part of the investment costs, which is financed by equity, considered as net cash outflow and is the part financed by debt excluded in net cash outflow?</p> <p>(EB 62 Annex 5, § 10)</p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
In case a comparison analysis has been done, go to				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
B.5.5				
<p>B.5.4.18. Is the type of benchmark chosen appropriate for the type of IRR calculated (e.g. local commercial lending rates or weighted average costs of capital for project IRR; required/expected returns on equity for equity IRR)?</p> <p>(EB 62 Annex 5, §12) Describe the steps taken to validate this issue.</p>	/PoA-DD01/	Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.	N/A	OK
<p>B.5.4.19. Is a pre-tax benchmark applied in case of project IRR is calculated? In cases where a post-tax benchmark is applied, assess whether actual interest payable is taken into account in the calculation of income tax.</p> <p>(EB 62 Annex 5, § 11) If this is not the case, ensure that taxation is excluded from the investment analysis. As per the guidance it is recommended to select a pre tax benchmark in order to describe the steps taken in assessing this requirement.</p>	/PoA-DD01/	Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.	N/A	OK
<p>B.5.4.20. Have both benchmark and cash flows expressed consistently, i.e. real terms (excluding the effect of inflation) or nominal</p>	/PoA-DD01/	Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
terms? <i>Describe the steps taken to validate this issue.</i>				
<p>B.5.4.21. Is the benchmark value suitable for the project activity and is it reasonable to assume that no investment would be made at a rate of a lower return than the benchmark?</p> <p>(VVS, v. 2.0, § 121 (c)) <i>Describe whether it is reasonable to assume that a lower rate of return would consequently result in the baseline scenario.</i></p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
<p>B.5.4.22. Is the benchmark applied based on parameters that are available and standard in the market?</p> <p>(VVS, v. 2.0, 121 (b), EB 62 Annex 5, §§13, 15, 16, 18) <i>Assess whether company-specific benchmarks or benchmarks based on parameters that are available in the market are suitable to the project activity. A benchmark that includes the subjective profitability expectations or risk profile of the project developer (size risk premiums, company own risk premium, etc) is not suitable for project activities open to be developed by other entities.</i></p> <p><i>If cost of equity is applied, assure that best financial practices are used and are based on data sources which can be cross-checked against third-party or publicly available sources.</i></p> <p><i>If cost of debt is used for the calculation of the benchmark, ensure that it is calculated as the cost of financing in the capital markets</i></p>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>(e.g.: commercial lending rates)</i> <i>If the cost/equity financing structure of the project is not yet available, 50% equity, 50% debt financing may be assumed as default.</i>				
Following checklist is intended for cases where internal company benchmarks are applied, otherwise go to B.5.5				
B.5.4.23. Is it ensured that the project cannot be developed by other developers than the PP, so that internal company benchmarks or expected returns are suitable for the project activity? (EB 62 Annex 5, §§ 13 – 14) <i>Describe how it has been validated that there is only one possible project developer.</i>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK
B.5.4.24. Was the benchmark consistently used in the past by the same company for similar projects with similar risks? (EB 62 Annex 5, § 14) <i>If applicable, assess the past financial behaviour of the entity during the last 3 years in relation to similar projects.</i>	/PoA-DD01/	<i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.5.4.25. Was the cost of debt calculated based on the weighted average cost of debt financing of the legal entity owning the CDM project activity? (EB 62 Annex 5, § 16)</p> <p><i>If applicable, assess whether loans, bonds or debt financing from a parent company are calculated according to the latest "Guidance on Investment Analysis".</i></p> <p><i>In case that the debt structure of the project is not yet available, the cost of debt can be assumed as the commercial lending rate in the company or the yield of a 10-year bond issued by the government of the host county.</i></p>	/PoA-DD01/	<p><i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i></p>	N/A	OK
<p>B.5.4.26. Does the equity/debt ratio of the project reflect the long-term debt/equity finance structure of the legal entity owning the assets of the project activity? (EB 62 Annex 5, § 17)</p> <p><i>Assess the latest balance sheets of the legal entity owning the assets of the project activity, in case these are available and audited by a third party within two years prior to the submission of the CPA-DD for validation, and the accounting books reflect the total value of all assets needed for the project activity.</i></p> <p><i>If debt/equity financing structure is not available, 50% equity,</i></p>	/PoA-DD01/	<p><i>Not applicable as this is Small-scale project and Attachment A to Appendix B were applied.</i></p>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
50% debt shall be considered as default.				
B.5.5. Assessment and Demonstration of CPA Additionality Barrier analysis Step 3 or SSC additionality assessment				
<p>B.5.5.1. Are there any barriers given which have a clear and direct impact on the financial returns of the project?</p> <p>(VVS, v. 2.0, § 125)</p> <p><i>In case of LSC projects those issues <u>cannot be considered</u> as barriers and shall be assessed in the investment analysis. In case of SSC projects the same fundamentals as for LSC projects shall apply, i.e. the assessment of the investment barrier according to EB 62 Annex 5. Only unavailability of sources of finance and/or risk related barriers, for example, the risk related to technical failure that could have negative impact on financial performance are acceptable as barriers.</i></p>	/PoA-DD01/ /M01/	Not applicable as the Additionality analysis has been done at PoA level.	N/A	OK
<p>B.5.5.2. Has the unavailability of means of finance for the project been described and adequately substantiated? Do evidences doubtlessly prove that the financing of the project was assured only due to the benefit of the CDM?</p>	/PoA-DD01/	Not applicable as the Additionality analysis has been done at PoA level.	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
(EB 50 Annex 13, § 9)				
<p>B.5.5.3. Would provision of additional financial means lead to the mitigation of the barrier(s) demonstrated?</p> <p>(EB 50 Annex 13, § 7) <i>Describe why provision of additional financial means would not lead to mitigation of the barrier(s) demonstrated and hence analyzing the project's additionality within the framework of an investment analysis is inappropriate. .</i></p>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level.</i>	N/A	OK
<p>B.5.5.4. How is it justified and evidenced that the barriers given in the PoA-DD / CPA-DD are real?</p> <p>(VVS, v. 2.0, § 126(a))</p>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level.</i>	N/A	OK
<p>B.5.5.5. How is it justified that one or a set of real barriers prevent(s) the implementation of the project activity and do not prevent the implementation of at least one of the alternatives?</p> <p>(VVS, v. 2.0, § 126 (b))</p>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level..</i>	N/A	OK
<p>B.5.5.6. Does the review of relevant background information on the nature of the company(ies) and entity(ies) involved in</p>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level..</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real? (EB 50 Annex 13, § 4)				
B.5.5.7. Has it been demonstrated in an objective way how the CDM alleviates each of the identified barriers to a level that the project is not prevented anymore from occurring by any of the barriers? (EB 50 Annex 13, § 5)	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level.</i>	N/A	OK
B.5.6. Assessment and Demonstration of CPA Additionality Common practice analysis Step 4 (in case of SSC projects or first-of-its-kind LSC projects skip this step)				
B.5.6.1. Is the defined region for the common practice analysis appropriate for the technology/industry type? (VVS, v. 2.0, § 129(a)) <i>Describe why the project activity is not common practice in a transparent and unambiguous manner. If a region other than the entire host country is chosen, describe why this region is more</i>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>appropriate.</i>				
In case of projects activities applying ACM002, go to B.5.6.4				
<p>B.5.6.2. To what extent similar projects have been undertaken in the relevant region?</p> <p>(VVS, v. 2.0, § 129(b))</p> <p><i>Similar projects are considered those that take place in a comparable environment w.r.t. regulatory framework, investment climate, access to technology and financing, etc. Registered CDM PA and PA that have been published on the UNFCCC website are not to be considered as similar.</i></p>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level.</i>	N/A	OK
<p>B.5.6.3. In case similar projects are identified, are there any key differences between the proposed project and existing or ongoing projects and what kind of differences are observed?</p> <p>(VVS, v. 2.0, § 129(c))</p>	/PoA-DD01/	<i>Not applicable as the Additionality analysis has been done at PoA level.</i>	N/A	OK
<p>B.5.6.4. Has an output range as +/- 50% of the design output of the project activity been calculated in order to define the capacity range for “similar” projects?</p> <p>(EB65 Annex 21, § 47)</p>	/PoA-DD01/	<i>Not applicable as the POA Additionality analysis has been done at PoA level.</i>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.5.6.5. Does N_{all} include only plants that have started commercial operation before the the start date of the project and are within the applicable output range? (EB65 Annex 21, § 47)</p> <p><i>Under N_{all}, registered CDM projects and projects undergoing validation are not to be included.</i></p>	/PoA-DD01/	<p><i>Not applicable as the Additionality analysis has been done at PoA level.</i></p>	N/A	OK
<p>B.5.6.6. Does N_{diff} include only plants that apply different “technology” than the project activity? (EB65 Annex 21, §§ 9, 47)</p> <p><i>The term “technology” refers to energy fuel, investment climate (access to technology, subsidies, legal regulations, etc...) or unit cost of output.</i></p> <p><i>Assess how the essential distinctions to identify the different measures have been carried out.</i></p>	/PoA-DD01/	<p><i>Not applicable as the Additionality analysis has been done at PoA level.</i></p>	N/A	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
B.6. Algorithms and/or formulae used to determine emissions reductions <i>It is assessed whether the steps taken and the equations and parameters applied in the POA-DD/CPA-DD to calculate project emissions, baseline emissions, leakage and emission reductions comply with the requirements of the selected methodology including applicable tool(s).</i>				
B.6.1. Are the equations applied correctly according to the applied approved methodology? (VVS, v. 2.0, §§ 72(c), 96) <i>Describe clearly the steps taken to assess whether the methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. Further take into consideration that all estimates of the baseline emissions can be replicated using the data and parameter values provided in the programme documentation</i>	/PoA-DD01/ /CPA1-DD01/ /XLS01/ /METH/ /TOOL/	<input type="checkbox"/> The equations applied for calculation are correctly applied according to the approved methodology. <input checked="" type="checkbox"/> The following mistakes have been identified in this context: <i>Description:</i> Equations are and calculation are provided in CPA1-DD and CPA-DD. <i>Validator's action:</i> The formulae in the CPA1-DD and generic CPA-DD were checked against the applied methodologies and calculation of grid emission tool. <i>Conclusion:</i> The following findings were identified: CAR CPA-B3: Calculation of the saving for each heat pump is not traceable CAR CPA-B4 1. The approach for the emission reduction calculation of heat	CAR CPA-B3 CAR CPA-B4 CAR CPA-B5	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		<p>pumps is not in line with paragraph 6 of AMS IIC ver. 13.</p> <ol style="list-style-type: none"> The inclusion of parameter is not as per ER calculation Emissions reduction calculation with supporting documents was not provided. <p>CAR CPA-B5</p> <ol style="list-style-type: none"> Only one option is to be selected for ER calculation for the project. The choice of Model based method for low income SWH is not explained. There are no estimations for input parameters for the model based method, hence the ex-ante ER calculation cannot be assessed as conservative. The use of the value of 450kWh/year/m² in the ER Excel calculation is not justified. 		
<p>B.6.2. In case the methodology allows for different methodological choices, are the equations applied properly justified and have they been used reflecting the other methodological choices (i.e. baseline identification)?</p> <p>(VVS, v. 2.0, §§ 97, 98)</p> <p><i>Assess the correct selection and application of methodological choices. Describe whether proper justification has been provided (based on the choice of the baseline scenario, context of activity typical CPA and other</i></p>	<p>/PoA-DD01/ CPA1-DD01/ /METH/ /TOOL/ /XLS01/</p>	<p><i>Description:</i> Applied methodologies AMS I.J ver 01 and AMS II.C ver 13 both allow for methodological choices in the calculation of emission reductions. The generic CPA-DD and CPA1-DD include ER calculation steps including formulae but they are not clear on the methodological choices made even with the grid emission calculation.</p> <p><i>Validator's action:</i> The validation team, basing on the GEF Tool and the applied methodologies, reviewed the ER calculation in the generic CPA-DD and CPA1-DD, the excel spreadsheet and GEF calculation.</p> <p><i>Conclusion:</i> The following findings were raised:</p>	<p>CAR CPA-B4 CAR CPA-B5 CAR PoA-B4</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>evidence provided) and whether the correct equations have been used reflecting the relevant methodological choices.</i>		<p>CAR PoA-B1: The exclusion of non ESKOM power generation plants in the GEF calculation was not justified.</p> <p>CAR CPA-B5:</p> <ol style="list-style-type: none"> 1. Only one option is to be selected for ER calculation for the project. The choice of Model based method for low income SWH is not explained. 2. There are no estimations for input parameters for the model based method, hence the ex-ante ER calculation cannot be assessed as conservative. 3. The use of the value of 450kWh/year/m² in the ER Excel calculation is not justified. <p>CAR CPA-B4:</p> <ol style="list-style-type: none"> 1. The approach for the emission reduction calculation of heat pumps is not in line with paragraph 6 of AMS IIC ver. 13. 2. The inclusion of parameter is not as per ER calculation 3. Emissions reduction calculation with supporting documents was not provided. 		
<p>B.6.3. Have conservative assumptions been used when calculating the emission reduction?</p> <p>(VVS, v. 2.0, §§ 98, 99(a))</p> <p><i>Describe clearly the steps taken to assess whether all the assumptions and data used by the PP are listed in the POA-</i></p>	<p>/PoA-DD01/ CPA1-DD01/ /METH/</p>	<p><i>Description:</i> As indicated above in the findings raised in B.6.1.-B.6.2., the emission reductions calculation are not entirely in line with the requirements of the applied methodologies and Tool.</p> <p><i>Validator's action:</i> The assessment was by review of project documents against methodologies and the Tool.</p>	<p>CAR PoA-B1, CAR CPA-B3,</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>DD/CPA-DD including references and sources and are conservatively interpreted in the POA-DD/CPA-DD.</i>	/TOOL/ /XLS01/	<i>Conclusion:</i> Refer to CAR PoA-B1, CAR CPA-B3, CAR CPA-B4, and CAR CPA-B5	CAR CPA- B4, CAR CPA- B5	
B.6.4. Are all data sources and assumptions appropriate and parameters which remain fixed throughout the crediting period correct, applicable to the project and will lead to a conservative estimation of emission reductions? (VVS, v. 2.0, § 98) <i>Describe clearly the steps taken to assess whether the values used for the fixed parameters are considered reasonable, correct and applicable in the context of the programme activity and typical CPA.</i>	/PoA- DD01/ CPA1- DD01/ /METH/ /TOOL/ /XLS01/	<i>Description:</i> The generic PoA-DD and real case CPA1-DD include fixed parameters for the estimation of emission reductions. The applied methodologies for solar water heaters and for heat pumps provide methodological choices that determine the ex-ante parameters to be included. <i>Validator's action:</i> The PoA-DD and CPA1-DD were checked against the applied methodologies and GEF tool. <i>Conclusion:</i> For both the ER calculation for solar water heaters and for heat pumps, the parameters are not justified in line with the requirements of the applied methodologies and Tool. Refer to findings: PoA-B1, CAR CPA-B3, CAR CPA-B4, and CAR CPA-B5.	CAR PoA- B1, CAR CPA- B3, CAR CPA- B4 CAR CPA- B5	OK
B.6.5. Are all ex-ante calculation values for monitoring parameters (as defined per chapter B.6.2) reasonable? (VVS, v. 2.0, § 98) <i>Describe clearly the steps taken to assess whether the values used for the monitoring parameters are considered reasonable, applicable and conservative in the context of</i>	/PoA- DD01/ CPA1- DD01/ /METH/ /TOOL/	<input type="checkbox"/> All "Values of data to be applied for the purpose of calculating expected emissions reductions" are considered to be reasonable, applicable and conservative. <input checked="" type="checkbox"/> The following mistakes have been identified in this context: <i>Description:</i> As noted above B.6.1.- B.6.4., since the determination of parameters for the ER calculation does not strictly follow the applied methodologies, the values applied are not all correct.	CL CPA- B8 CAR CPA- B9 CAR	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>the project activity</i>	/XLS01/	<p><i>Justification of evidences:</i> The PoA-DD and CPA1-DD were checked against the applied methodologies and GEF tool.</p> <p><i>Conclusion:</i> Refer to the following findings: CL CPA-B8: The disposal of baseline geysers and leakage due to the same is not defined in the PoA DD and CPA DD. CAR CPA-B9: Some of the ex-ante monitoring parameters for heat pumps are missing. CAR CPA-B5 : There are no estimations for input parameters for the model based method, hence the ex-ante ER calculation cannot be assessed as conservative.</p>	CPA-B5	
<p>B.6.6. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change. <i>Describe the steps taken to validate this issue.</i></p>	/PoA-DD01/ /CPA1-DD01/ /METH/ /TOOL/ /XLS01/ /BE/ /IM01/	<p><i>Description:</i> Despite the findings raised in B.6.1.- B.6.5. this CDM programme, basing on the calculations entailed in the project documents and on interviews, host country knowledge and literature review undertaken, is likely to generate real and measurable emission reduction</p> <p><i>Validator's action:</i> The PoA-DD, CPA1-DD and excel spreadsheet were checked against the applied methodology and GEF tool. The validation team also based its analysis on host country knowledge literature review ^{/BE/} as well as onsite interviews.</p> <p><i>Conclusion:</i> The programme will result in long term benefits for the mitigation of climate change because it involves the installation of renewable energy solar water heaters displacing electricity from largely generated from coal. It will also involve installation of energy</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		efficient heat pumps resulting in less consumption of fossil fuel based electricity.		
B.7. Operational, Management and Monitoring Plan of the PoA <i>It is assessed whether the operational, management and monitoring plan is appropriate for the project activity and in line with the applied methodology.</i>				
B.7.1. Operational and Management Plan				
B.7.1.1. Has the coordinating/managing entity established the operational and management arrangements for the implementation of the PoA, which includes a clear definition of roles and responsibilities of personnel involved in the CPA inclusion (i.a. their competencies) as well as records of arrangements for training and capacity development? (EB65, Annex 3, §§17(a,b),18)	/PoA-DD01/ /GUIDE/ /PoAS/ /IM01/	<i>Description:</i> The PoA-DD in section C includes the CME management arrangements for the implementation of the programme. However it does not include all the requirements as stated in the PoA Standard. <i>Validator's action:</i> The PoA-DD was checked against the requirements of the PoA Standard. The validation team also interviewed the PP during onsite visit. <i>Conclusion:</i> Refer to finding CAR PoA-A3: The management system is not described as required as per the guidelines for completing the PoA-DD in line with paragraph 17 of PoA Standard.	CAR PoA-A3	OK
B.7.1.2. Are procedures for technical review of the CPA inclusion part of the management	/PoA-DD01/	<i>Description:</i> As indicated above, the PoA-DD does not include procedures for technical review of CPA inclusion.	CAR PoA-A3	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
system? (EB65, Annex 3, §§17(c),18)	/PoAS/	<i>Validator's action:</i> The PoA-DD has been checked against the requirements of paragraph 17 of the PoA Standard. <i>Conclusion:</i> Refer to CAR PoA-A3.		
B.7.1.3. Do the arrangements include a system/ procedure to avoid double accounting, e.g., to avoid the case of including a new CPA that has been already registered either as CDM project activity or as a CPA of another PoA? (EB65, Annex 3, §§17(d),18)	/PoA-DD01/	<i>Description:</i> The published PoA-DD includes a system to avoid double accounting of the CPAs and installations of each CPA. These are serial numbering of project equipment installed; details of the location of the installation are recorded; each installation is provided with a unique CPA identification number; and the CPA implementer will physically check if the serial number match those recorded in the electronic data base. <i>Validator's action:</i> The PoA-DD was checked. <i>Conclusion:</i> The procedures to avoid double accounting were assessed as sufficient.	OK	OK
B.7.1.4. Does the management system include a records and documentation control process for each CPA under the PoA? (EB65, Annex 3, §§17(e),18)	/PoA-DD01/ /PoAS/	<i>Description:</i> The management arrangement in the PoA-DD includes a records and documentation control process for each CPA. However some information is missing. <i>Validator's action:</i> The PoA-DD has been checked. <i>Conclusion:</i> Refer to CAR PoA-A8: The list of identified suppliers referred to in the table of records was not provided.	CAR PoA-A8	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>B.7.1.5. Do the arrangements include measures for continuous improvement of the PoA management system?</p> <p>(EB65, Annex 3, §§17(g),18)</p>	/PoA-DD01/ /PoAS/	<p><i>Description:</i> The management arrangements do not include measures for continuous improvement of the PoA management system.</p> <p><i>Validator's action:</i> The PoA-DD has been checked.</p> <p><i>Conclusion:</i> Refer to CAR PoA-A3 above.</p>	CAR PoA-A3	OK
<p>B.7.1.6. Are all other relevant elements to ensure the CME's competency to check the features of potential CPAs and ensure that each CPA meets all requirements and eligibility criteria before inclusion in the registered PoA taken into account?</p>	/PoA-DD01/ /PoAS/	<p><i>Description:</i> same as above.</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR PoA-A3	OK
B.7.2. Monitoring Plan				
<p>B.7.2.1. Are all monitoring parameters required by the applied methodology contained in the monitoring plan?</p> <p>(VVS, v. 2.0, §§ 72 (e), 131, 132 (a) (i))</p> <p><i>Assess whether all applicable parameters listed in the methodology are included in the monitoring plan.</i></p>	/PoA-DD01/ /CPA1-DD01/ /METH/ /TOOL/	<p><i>Description:</i> As mentioned above under Section B.5. of this Checklist Protocol, the generic CPA-DD and real case CPA1-DD do not systematically follow the requirements for input data in ER calculation this therefore affects the monitoring arrangements of the monitoring parameters.</p> <p><i>Validator's action:</i> The applied methodologies and GEF tool were checked and compared with the generic CPA-DD and CPA1-DD.</p>	CAR CPA-B4 CAR CPA-B5 CAR	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>Pl. check further whether the selection of parameters not to be monitored (section B.6.2) is appropriate and in line with the applied methodology.</i></p> <p><i>In case of different approaches can be chosen acc. to the methodology assess whether the selection of parameters is justified and correct.</i></p>	<p>/EB 65 Annex 2/ /EB 69 Annex 5/</p>	<p><i>Conclusion:</i> Refer to findings::</p> <p>CAR CPA-B4: The inclusion of parameters in not as per ER calculation.</p> <p>CAR CPA-B5: There are no estimations for input parameters for the model based method.</p> <p>CAR CPA-B6: The Sampling plan is not as per requirements of EB Annex 65 Annex 2 and the calculation approach is not clear as per EB 69 Annex 5 requirements.</p> <p>CL CPA-B7: The disposal of the baseline geyser and leakage thereof is not defined in the PoA-DD and CPA-DD.</p> <p>CAR CPA-B9: Some ex-ante monitoring parameters for heat pumps are missing.</p> <p>CL CPA-B10: The monitoring of generation and consumption of hot water used in project activity as per AMS I.J. is not clear.</p> <p>CAR CPA-B11: The monitoring of possibility of use of back up electricity in the project activity was not specified.</p>	<p>CPA-B6 CL CPA-B7 CAR CPA-B9 CL CPA-B10 CAR CPA-B11</p>	
<p>B.7.2.2. Are the means of monitoring of all parameters contained in the monitoring plan feasible within the PoA design?</p> <p>(VVS, v. 2.0, §§ 132 (b) (i), 133(b))</p> <p><i>Describe the steps undertaken to assess whether the monitoring arrangements described in the monitoring plan</i></p>	<p>/PoA-DD01/ /CPA1-DD01/ /METH/</p>	<p><i>Description:</i> The monitoring plan in the generic CPA-DD and CPA1-DD include means of monitoring which are feasible for the PoA design however as stated above the monitoring plan is not comprehensive due to some missing monitoring parameters. t</p> <p><i>Validator's action:</i> The applied methodologies and GEF tool were checked and compared with the generic CPA-DD and CPA1-DD.</p>	<p>CAR CPA-B4 CAR CPA-B5</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.																												
<i>are feasible within the project design.</i>	/TOOL/ /EB 65 Annex 2/ /EB 69 Annex 5/	<i>Conclusion:</i> Refer to the findings raised in B.7.2.1. above.	CAR CPA- B6 CL CPA- B7 CAR CPA- B9 CL CPA- B10 CAR CPA- B11																													
B.7.2.3. $EG_{PJ,y}$ (or $EG_{Facility,y}$ or $EG_{PJ_Add,y}$): <i>Quantity of net electricity generation supplied by the project plant to the grid in year y</i> (VVS, v. 2.0, § 132(a)– (ii)) <i>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</i> <i>For checking the use of international standards in the nomenclature, consider:</i>	/PoA-DD01/ /METH/	<table><tr><th>Requirement</th><th>OK</th><th>Not OK</th><th>N/A</th></tr><tr><td>Label</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Data Unit</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Description</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Source of data</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Measurement equipment / measure method</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td>Monitoring frequency</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>	Requirement	OK	Not OK	N/A	Label	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Data Unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Description	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Source of data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Measurement equipment / measure method	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Monitoring frequency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N/A	OK
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<p>a) Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</p> <p>b) Values shall be directly given in SI units – or additionally to original units transferred to SI.</p> <p>c) Short scale naming system: (Only) million = 10^6 and billion 10^9 shall be used.</p>		<p>QA/QC procedures <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Purpose of data <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Standard format <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>SI units <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Short scale naming <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>		
<p>B.7.2.4. $EF_{grid,CM,yJ,y}$: Combined margin CO_2 emission factor in year y</p> <p>(VVS, v. 2.0, § 132(a)– (ii))</p> <p>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</p> <p>For checking the use of international standards in the nomenclature, consider:</p> <p>d) Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</p> <p>e) Values shall be directly given in SI units – or additionally to original units transferred to SI.</p> <p>f) Short scale naming system: (Only) million = 10^6 and billion 10^9 shall be used.</p>	<p>/PoA-DD01/ /CPA1-DD01/ /METH/</p>	<p>Requirement OK Not OK N/A</p> <p>Label <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Data Unit <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Description <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Source of data <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>Measurement equipment / measure method <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Monitoring frequency <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>QA/QC procedures <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Purpose of data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Standard format <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>SI units <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Short scale naming <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	CAR PoA-B4	OK
<p>B.7.2.5. $EF_{grid,OM,yJ,y}$: Operating margin CO_2</p>	/PoA-	<p>Requirement OK Not OK N/A</p>	CAR	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>emission factor in year y</i></p> <p>(VVS, v. 2.0, § 132(a)– (ii))</p> <p><i>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</i></p> <p><i>For checking the use of international standards in the nomenclature, consider:</i></p> <p>g) Standard format (e.g. 1,000 representing one thousand and 1.0 representing one).</p> <p>h) Values shall be directly given in SI units – or additionally to original units transferred to SI.</p> <p>i) Short scale naming system: (Only) million = 10^6 and billion 10^9 shall be used.</p>	DD01/ /CPA1/ DD01/ /METH/ /TOOL	<p>Label <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Data Unit <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Description <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Source of data <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>Measurement equipment / measure method <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Monitoring frequency <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>QA/QC procedures <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Purpose of data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Standard format <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>SI units <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Short scale naming <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/></p>	PoA-B4	
<p>B.7.2.6. $EF_{grid,BM,yJ,y}$: Build margin CO₂ emission factor in year y</p> <p>(VVS, v. 2.0, § 132(a)– (ii))</p> <p><i>Indicate whether the provided information for the monitoring parameter complies with the approved methodology including applicable tool(s) in the aspects listed.</i></p> <p><i>For checking the use of international standards in the nomenclature, consider:</i></p> <p>j) Standard format (e.g. 1,000 representing one</p>	/PoA- DD01/ /METH/ /TOOL/	<p>Requirement OK Not OK N/A</p> <p>Label <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Data Unit <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Description <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Source of data <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/></p> <p>Measurement equipment / measure method <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	CAR PoA-B4	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>thousand and 1.0 representing one).</i></p> <p>k) <i>Values shall be directly given in SI units – or additionally to original units transferred to SI.</i></p> <p>l) <i>Short scale naming system: (Only) million = 10⁶ and billion 10⁹ shall be used.</i></p>		<p>Monitoring frequency <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>QA/QC procedures <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Purpose of data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Standard format <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/></p> <p>SI units <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Short scale naming <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/></p>		
<p>B.7.2.7. Has a monitoring plan for all types of CPA been developed in accordance with the approved monitoring methodology, and identified the monitoring provisions and data parameters a CPA has to apply/monitor?</p> <p>(VVS, v. 2.0, § 198)</p>	<p>/PoA-DD01/ /CPA1-DD01/ /METH/</p>	<p><i>Description:</i> A monitoring plan for all types of CPA has been developed in accordance with the approved monitoring methodology though not a sufficient manner. Consider to findings raised in B.7.2.1. above.</p> <p><i>Validator's action:</i> The PoA-DD and CPA-DD has been checked against the applied methodologies.</p> <p><i>Conclusion:</i> Refer to B.7.2.1. above and also consider:</p> <p>CL CPA-B8: The QA/QC procedure for parameter EF_{CO2, grid,y} where the DOE will annually check it is not clear.</p> <p>CAR CPA-B13: The monitoring template/form had not yet been developed.</p>	<p>CAR CPA- B4</p> <p>CAR CPA- B5</p> <p>CAR CPA- B6</p> <p>CL CPA- B7</p> <p>CAR CPA- B9</p> <p>CL CPA-</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
			B10 CAR CPA- B11 CL CPA- B8 CAR CPA- B12	
<p>B.7.2.8. Have all means of implementing the monitoring plan, e.g. equations necessary for ex-post emission reduction calculation, been described clearly and in line with the methodology?</p> <p>(VVS, v. 2.0, § 131)</p> <p><i>Check whether all necessary equations have been provided in the POA-DD/CPA-DD. Pl. consider that ex-post and ex-ante calculations might be different.</i></p> <p><i>Please consider that additional equations might be necessary to calculate auxiliary parameters.</i></p>	<p>/PoA-DD01/ /CPA1-DD01/ /METH/</p>	<p><i>Description:</i> Refer to B.7.2.7</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	<p>CAR CPA- B4 CAR CPA- B5 CAR CPA- B6 CL CPA- B7 CAR CPA- B9 CL</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
			CPA- B10 CAR CPA- B11 CL CPA- B8 CAR CPA- B12	
<p>B.7.2.9. Is it likely that the monitoring arrangements described in the PoA-DD/CPA-DD can properly be implemented in the context of the project activity?</p> <p>(VVS, v. 2.0, § 132(b) (i))</p> <p><i>Assess whether the described monitoring arrangements are sufficient and realistic to enable a thorough monitoring. Pl. consider also special monitoring conditions, e.g. downtimes of monitoring equipment etc.</i></p>	<p>/PoA-DD01/ /CPA1-DD01/ /METH/</p>	<p><i>Description:</i> Refer to B.7.2.7</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	<p>CAR CPA- B4 CAR CPA- B5 CAR CPA- B6 CL CPA- B7 CAR CPA- B9</p>	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
			CL CPA- B10 CAR CPA- B11 CL CPA- B8 CAR CPA- B12	
<p>B.7.2.10. Are the QA/QC procedures appropriate and sufficient to ensure the emission reductions achieved from the programme activity can be reported ex-post and verified?</p> <p>(VVS, v. 2.0, § 132(b) (ii))</p> <p><i>Please consider the description given in the relevant section of the PoA-DD and the CPA-DD. Describe which QA/QC provisions are considered. Address Quality Management System provisions, calibration and maintenance of equipment. Address further any review procedures.</i></p>	<p>/PoA-DD01/ /CPA1-DD01/ /METH/</p>	<p><i>Description:</i> Refer to B.7.2.7</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR CPA- B4 CAR CPA- B5 CAR CPA- B6 CL CPA- B7 CAR CPA-	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
			B9 CL CPA- B10 CAR CPA- B11 CL CPA- B8 CAR CPA- B12	
<p>B.7.2.11. Are procedures identified for data management?</p> <p>(VVS, v. 2.0, § 132(b) (ii))</p> <p><i>Check whether appropriate provisions are considered for data management including responsibilities, what records to keep, storage area of records and how to process performance documentation</i></p> <p><i>Check further the data archiving provisions for the project activity and ensure that provisions are made to archive data for the whole crediting period + 2 years.</i></p>	<p>/PoA-DD01/ /METH/</p>	<p><i>Description:</i> The generic CPA and CPA1-DD include arrangements for data collection and management. It is also stated that data will be archived for the crediting period and 2 years beyond. The CME is responsible for producing annual monitoring reports. However the monitoring template has not yet been developed.</p> <p><i>Validator's action:</i> The PoA-DD and CPA-DD were checked against the monitoring requirements of the applied methodologies.</p> <p><i>Conclusion:</i> Refer to CAR CPA-B12.</p>	CAR CPA- B12	OK
C. Duration and Crediting Period				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>It is assessed whether the temporary boundaries of the programme are clearly defined.</i>				
C.1.1. Is the starting date of any CPA prior to the commencement of the validation of the PoA (date of publication for GSCP)? (VVS, v. 2.0, § 193)	/PoA-DD01/ /CPA-DD01/ /IM01/ /unfccc/	<i>Description:</i> No, as the starting date of the first CPA is 01/01/2013 whereas the date of publication for GSCP of the PoA was on 2012-06-28. <i>Validator's action:</i> The PoA-DD, CPA-DD and UNFCCC website were checked and interviews with project participants were performed to assess this issue. During onsite observation, the validation team confirmed that no CPA had commenced. <i>Conclusion:</i> No CPA had occurred prior to the date of publication for GSCP of the PoA.	OK	OK
C.1.2. Is the project's operational lifetime clearly defined and evidenced? <i>Check whether the project lifetime is correctly defined. Consider the latest "Guidance on the assessment of investment analysis".</i> <i>Check in case of phased implementation this has been reflected throughout the whole PoA-DD incl. the financial assessment, if applicable.</i>	/CPA1-DD01/ /IM01/ /GUIDE/TECH/	<i>Description:</i> Real case CPA1-DD states a lifetime of ten years, which is the crediting duration selected for CPA1. The start date of the PoA and CPA1 is defined as when the CME envisages the first installation to happen. <i>Validator's action:</i> The CPA-DD was checked and interviews with project participants were performed to assess this issue. <i>Conclusion:</i> However the operational lifetime in the CPA-DD of the CPA was not stated as per guidelines for completing CPA-DD.	CAR PoA-F2	OK
C.1.3. Is the start of the crediting period clearly defined and reasonable? <i>Check whether the envisaged starting date of the crediting period is realistic, taking into consideration the times needed</i>	/PoA-DD01/	<i>Description:</i> The duration of the PoA is 28 years. The real case CPA1 chose a fixed crediting period of ten years starting on 01/01/2013. <i>Validator's action:</i> The CPA-DD was checked and interviews with project participants were performed to assess this issue.	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p><i>for validation and registration.</i></p> <p><i>Life time of the PoA starts on the date specified in the PoA-DD section B.1 or on the date of registration, whichever is later.</i></p> <p><i>In case of small-scale PoA, the start date must be stated as at least 4 weeks after the estimated submission date;</i></p> <p><i>In case of large-scale PoA, the start date must be stated as at least 8 weeks after the estimated submission date.</i></p> <p><i>(PoA registration uploading requirements step 4)</i></p>		<p><i>Conclusion:</i> The start of the crediting period CPA1 is considered reasonable considering period required for validation and registration.</p>		
<p>C.1.4. Does the crediting period of the PoA or an individual CPA not exceed 28 years? (VVS, v. 2.0, § 197)</p>	<p>/PoA-DD01/ /CPA1-DD01/ /VVS/</p>	<p><i>The crediting period of the PoA is defined as 28 years in section D.2 of the PoA-DD version 2.0, in line with EB 55, Annex 38 § 6 (h). However, the crediting period of the CPA shall be defined at CPA level and will not exceed the PoA duration. The crediting duration of CPA1 is ten years commencing on 01/01/2013.</i></p>	OK	OK
<p>D. Environmental Impacts</p> <p><i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the DOE.</i></p>				
<p>D.1.1. Are there any Host Party requirements for an</p>	//PoA-	<p><i>Description:</i> Environmental impact analysis is done at PoA level.</p>	CAR	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>Environmental Impact Assessment (EIA) on PoA and/or typical CPA level?</p> <p>(VVS, v. 2.0, §§ 134-135, 199)</p> <p><i>Check the host party regulations regarding EIA. If no requirements for an EIA exist, discuss whether the project participants conducted an analysis of the environmental impacts of the project activity.</i></p>	DD01/ /NEMA/	<p>There are no host country requirements for the kind of activity undertaken in the PoA^{/NEMA/}. CPA implementer is not required to do an environmental impact assessment.</p> <p><i>Validator's action:</i> The National Environmental Management Act (2010) defines activities that require Environmental Impact Assessment (EIA) through 3 Listing Notices depending on type and scale of activity. The activities of the PoA (installation of solar water heaters and heat pumps) are not listed in any of the Listing Notices and hence are not required to undertake any environmental impact assessment and none was undertaken.</p> <p><i>Conclusion:</i> However the PoA-DD does not reference the host country regulation.</p>	PoA-D1	
<p>D.1.2. In case an Environmental Impact Assessment (EIA) is requested by the host party, has it been carried out and if applicable duly approved in accordance with the host Party procedures?</p> <p>(VVS, v. 2.0, §§ 135, 199)</p> <p><i>Check the EIA and its approval, if applicable. If the EIA is conducted at CPA level, please assess if the EIA was conducted according to the description in the CPA-DD and the PoA-DD.</i></p>	/PoA-DD01/ /NEMA/	<p><i>Description:</i> Refer to D.1.1. above.</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR PoA-D1	OK
<p>D.1.3. Has it been clearly indicated on which level i.e. PoA level or CPA level, an environmental analysis has been carried out or will be carried</p>	/PoA-DD01/	<i>Description:</i> Refer to D.1.1. above.	CAR PoA-D1	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
out? (VVS, v. 2.0, § 200) <i>Please check whether the indication is in line with the provided documentation.</i>	/NEMA/	<i>Validator's action:</i> <i>Conclusion:</i>		
D.1.4. Does the PoA-DD contain a sufficiently described justification on the choice of level at which the EIA is undertaken?	/PoA-DD01/ /NEMA/	<i>Description:</i> Refer to D.1.1. above. <i>Validator's action:</i> <i>Conclusion:</i>	CAR PoA-D1	OK
D.1.5. Are transboundary environmental impacts considered in the analysis? (VVS, v. 2.0, § 134) <i>Check the documents and local official sources / expertise regarding transboundary environmental impacts.</i>	/PoA-DD01/ /NEMA/	<i>Description:</i> Refer to D.1.1. above. <i>Validator's action:</i> <i>Conclusion:</i>	CAR PoA-D1	OK
E. Stakeholder Comments <i>The DOE should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.</i>				



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>E.1.1. With regard to the PoA, how have relevant local stakeholders' comments been invited to consultation prior to the publication of the PoA-DD/CPA-DD?</p> <p>(VVS, v. 2.0, §§ 138-140, 201, 202)</p> <p><i>If such comments are to be sought at the CPA level this shall be described and reflected in the PoA-DD and the CPA-DD.</i></p> <p><i>Check by means of document review and interviews with local stakeholders if and when a local stakeholder consultation process has been carried out.</i></p>	<p>/PoA-DD01/ /CPA1-DD01/ /SHCP/ /IM01/ /IM02/</p>	<p><i>Description:</i> The Local stakeholder consultation process takes place at CPA level. CPA1-DD includes description how invitation to the consultation meeting was undertaken, a list of attendees, comments raised and how there were dealt with.</p> <p><i>Validator's action:</i> The validation team reviewed CPA1-DD basing on the requirements for local stakeholder consultation as outlined in the Project Standard (VVS). Interviews with local end-users was also undertaken during onsite visit.</p> <p><i>Conclusion:</i> The description of LSC in the CPA-DD was not satisfactory with regards to adequate consultation process.</p>	<p>CAR CPA- E1</p>	<p>OK</p>
<p>E.1.2. How have the comments received been compiled and can the summary be assessed as complete and adequate?</p> <p>(VVS, v. 2.0, §§ 201, 202)</p>	<p>/CPA1-DD01/ /SHCP/ /IM01/ /IM02/ /VVS/</p>	<p><i>Description:</i> Yes, as described in section E.1, several relevant stakeholders raised comments and they are stated in CPA-DD. However as noted in finding CAR CPA-E1, the description of the consultation process in the CPA-DD was not sufficient.</p> <p><i>Validator's action:</i> The validation team reviewed CPA1-DD.</p> <p><i>Conclusion:</i> Refer to finding CAR CPA-E1.</p>	<p>CAR CPA- E1</p>	<p>OK</p>
<p>E.1.3. With regard to the PoA, can the local stakeholder consultation process be assessed as adequate?</p>	<p>//CPA1-DD01/ /SHCP/ /IM01/</p>	<p><i>Description:</i> Local stakeholder consultation is at CPA level. Basing on the Public Notice published in a local newspaper, <i>Metro Ezasegagasini</i> 17th February 2012, the purpose of the PoA is clearly defined including the solicitation of CDM revenue. Further the PP</p>	<p>CAR CPA- E1</p>	<p>OK</p>



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>(VVS, v. 2.0, §§ 138-140, 201)</p> <p><i>Describe what assessment steps have been undertaken to assess the adequacy of the stakeholder consultation process. Give a final opinion on the adequacy.</i></p> <p><i>Please consider the following requirements in this context:</i></p> <p><i>(a) Comments by local stakeholders that can reasonably be considered relevant for the proposed CDM project activity, have been invited;</i></p> <p><i>(b) The summary of the comments received as provided in the PoA-DD/CPA-DD is complete;</i></p> <p><i>(c) The project participants have taken due account of any comments received and have described this process in the PoA-DD/CPA-DD.</i></p>	/IM02/ /VVS/	<p>used the newsletter of renewable energy forum to publicise the local stakeholder consultation meeting. Therefore in terms of invitation adequate means were deployed.</p> <p>Comments raised in the consultation meeting were adequately responded to as indicated in CPA1-DD.</p> <p><i>Validator's action:</i> Assessment was made based on review of CPA-DD and interview of IM01, IM02.</p> <p><i>Conclusion:</i> The consultation process was adequate. However it is not sufficiently described in CPA1-DD. Refer to CAR CPA-E1.</p>		
F. Others				
F.1. Definition of Roles				
<p>F.1.1. Does the section A.3 of the PoA-DD include an identification of the coordinating/ managing entity (a private or public entity), Host Party(ies) and PoA participants?</p> <p><i>Project participants may or may not be involved in one of the CPAs related to the PoA. The operators of individual CPAs are not required to be project participants. CDM programme participation is</i></p>	/PoA-DD01/ /IM01/	<p><i>Description:</i> In Section A.3 of the PoA-DD, it is clearly stated that the CME is the public entity eThekweni Municipality. The entity that is also the listed PoA participant.</p> <p><i>Validator's action:</i> The PoA-DD has been checked and this was further cross-checked during onsite interviews with eThekweni Municipality officials</p>	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>only recorded at the PoA level.</i>		<i>Conclusion:</i> There is a clear identification of the CME of the PoA in Section A.3.		
F.1.2. Is there any Party directly involved as project participant, and if yes, is that Party's contact details included in annex 1 of the PoA-DD and is the information provided internally consistent with section A.3 of the PoA-DD?	/PoA-DD01/	<i>Description:</i> No, there is no party directly involved as PP. <i>Validator's action:</i> The PoA-DD has been checked. <i>Conclusion:</i> There is no party directly involved as PP.	OK	OK
F.2. Approval – Contribution to Sustainable Development <i>The written approval of the parties involved is a mandatory requirement.</i>				
F.2.1. Have written approvals of all parties involved (incl. the CME) been provided to the validation team? (VVS, v. 2.0, § 38) <i>Indicate whether a letter of approval has been received, with a clear reference to the supporting documentation.</i> <i>Indicate whether this letter was provided to the DOE by the project participants or directly by the DNA</i>	/dna/	<i>Description:</i> South Africa is the host and only involved party. In accordance with the CDM M&P at the stage of validation, a party involved may or may not have provided its approval at the time of making the PoA-DD public. The approval of the parties involved is required at the time of requesting registration. For the South African DNA, a draft validation report is necessary prior to the request of the LoA. <i>Validator's action:</i> DNA rules have been checked. CAR A11 <i>Conclusion:</i> Letter of approval for PoA from host country was not	CAR PoA-F4	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
		provided yet. •		
F.2.2. Are the approvals issued from organizations listed as DNAs on the UNFCCC CDM website? (VVS, v. 2.0, §§ 41) <i>Indicate the means of validation employed to assess the authenticity, i.e. in case of doubt whether LoA has been verified with the DNA. Further describe which entity submitted the LoA for validation.</i>	/dna/	See comments at F.2.1 above.	CAR PoA-F4	OK
F.2.3. Do the written approvals confirm that the corresponding party is a Party to the Kyoto Protocol? (VVS, v. 2.0, § 39(a))	/unfccc/ /dna/	Description: See comments at F.2.1 above. Validator's action: checked UNFCCC website. Conclusion:	CAR PoA-F4	OK
F.2.4. Do the written approvals confirm that the participation is voluntary? (VVS, v. 2.0, § 39(b))	/dna/	See comments at F.2.1 above.	CAR PoA-F4	OK
F.2.5. Does the written approval from the host country confirm that the project contributes to the sustainable development in the country?	/dna/	See comments at F.2.1 above.	CAR PoA-F4	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
(VVS, v. 2.0, § 39(c))				
F.2.6. Do the written approvals refer to the precise project title in the PoA-DD submitted for registration or an additional specification of the project activity, e.g. PoA-DD version number? (VVS, v. 2.0, §§ 39(d))	/dna/	See comments at F.2.1 above.	CAR PoA-F4	OK
F.2.7. Are the written approvals unconditional with regard to F.1.3 to F.1.6? (VVS, v. 2.0, § 40)	/dna/	See comments at F.2.1 above.	CAR PoA-F4	OK
F.2.8. Is the information regarding the project participants listed in tabular form in the PoA-DD and is internally consistent with the information provided in the section that contains the contact information of the project participants? (VVS, v. 2.0, § 46)	/PoA-DD01/	<i>Description:</i> Yes, as stated at section A.3 and in Annex 1, the project participant is eThekwin Municipality. <i>Validator's action:</i> The PoA-DD has been checked. <i>Conclusion:</i> The information regarding project participant is consistent.	OK	OK
F.2.9. Are all project participants listed in the PoA-DD approved at least by one Party involved? (VVS, v. 2.0, § 45) <i>Indicate whether the participation of the project participant(s)</i>	/dna/	See comments at F.2.1 above.	CAR PoA-F4	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>has been approved by a Party to the Kyoto Protocol.</i> <i>Describe the means of validation employed to draw this conclusion.</i>				
F.2.10. Are any other project participants than those authorized as project participants listed in the PoA-DD? (VVS, v. 2.0, § 47)	/PoA-DD01/	Only one project participant, eThekweni Municipality is listed in the PoA-DD .	OK	OK
F.3. Modalities of Communication Statement <i>A due diligence on the Modalities of Communication statement in accordance with the requirements established in the VVS is mandatory.</i>				
F.3.1. Has a valid Modalities of Communication (MoC) been provided to the validation team from a project participant with whom the DOE has a contractual relationship? (VVS, v. 02, § 55) <i>Indicate whether a MoC has been received, with a clear reference to the contractual relationship of the project participant with the DOE.</i>	/VVS/	<i>Description:</i> The MoC from has not been provided to the validation team. <i>Validator's action:</i> <i>Conclusion:</i> Finding CAR PoA-F1 was raised.	CAR PoA-F1	OK
F.3.2. Has the MoC been signed by a duly authorized person on behalf of the respective	/VVS	The personal and corporate identities of all project participants and focal points included in the MoC were validated by:	CAR PoA-F1	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<p>project participant? (VVS, v. 2.0, §§ 54, 56)</p> <p><i>Please Indicate how the personal and corporate identities of all project participants and focal points included in the MoC statement have been validated,:</i></p>		<input type="checkbox"/> Directly checking evidence for corporate and personal entity <input type="checkbox"/> Notarized documentation <input type="checkbox"/> Written confirmation from the project participant that all corporate and personal details are accurate and valid. , including specimen signatures and employment status of their signaries whether a letter of approval has been received, with a clear reference to the supporting documentation <p>MoC has not yet provided.</p>		
<p>F.3.3. Has the MoC statement correctly been completed? (VVS, v. 2.0, §§ 59, 60)</p>	/VVS/	<input type="checkbox"/> The latest version of the form (F-CDM-MOC) has been used <input type="checkbox"/> Annex 1 of the MoC is correctly completed <input type="checkbox"/> The project participants' authorized signatories signing the MoC are also listed in Annex 1 of the MoC. <p>MoC for PoA was not provided yet.</p>	CAR PoA-F4	OK
<p>F.3.4. Does the MOC confirm that the Coordinating/managing entity of the PoA communicates with the Board, and is the information in the MoC on all Project participants consistent with the PoA-DD? <i>Procedures for modalities of communication between project participants and the Executive Board shall apply, with the exception that the coordinating/managing entity shall be either sole</i></p>	/VVS/	<p><i>Description:</i> Refer to F.3.1</p> <p><i>Validator's action:</i></p> <p><i>Conclusion:</i></p>	CAR PoA-F4	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
<i>or joint focal point for each area of communication. The limit of joint focal points for the programme shall be 5, or equal to the number of host Parties if greater than 5.</i>				
F.4. Project documentation editorial aspects <i>The PoA-DD and the CPA-DD used as a basis for validation shall be prepared in accordance with the latest template and guidance from the CDM Executive Board available on the UNFCCC CDM website.</i>				
F.3.1. Have the latest versions of the PoA-DD and the CPA-DD form been applied? (VVS, v. 2.0, § 62)	/unfccc/ /PoAD D-T/ /CPAD D-T/	<i>Description:</i> Yes, templates F-CDM-SSC-PoA-DD version 02.0 and F-CDM-SSC-CPA-DD version 02.0 were applied for the published PoA-DD and CPA-DD respectively. <i>Validator's action:</i> The templates versions were checked on the website of the UNFCCC. <i>Conclusion:</i> The latest PoA-DD template has been used.	OK	OK



Checklist Item (incl. guidance for the validation team)	Reference	Validation Team Comments (justification and substantiation of information, data and evidences)	Draft Concl.	Final Concl.
F.3.2. Have the PoA-DD and the generic CPA-DD been duly filled in accordance with the latest guidance(s)? (VVS, v. 2.0, § 63)	/PoA-DD01/ /CPA1-DD01/ /unfccc/ /GUIDE/ /	<p><i>Description:</i> General the PoA-DD and CPA1-DD have been filled in accordance with the the guidelines for completing PoA-DD and CPA-DD^{/GUIDE/}.</p> <p><i>Validator's action:</i> The documents were cross-checked against the guidelines.</p> <p><i>Conclusion:</i> Some editorial issues and/or missing information were listed in finding CAR PoA-F2.</p>	CAR PoA-F2	OK



ANNEX 2: ASSESSMENT OF APPLICABILITY CRITERIA

Table A-2: Assessment of Applicability Criteria (VVS, v. 2.0 §§ 70 – 76)

Applicability Criteria for AMS I.J. version 01 (Solar Water Heating systems)

Applicability Criteria	Evidence used	met	not met	N/A	Assessment of validation team (results and means of assessment)
1. <i>This category comprises the installation of residential solar water heating (SWH) systems and commercial SWH systems for hot water production. The SWH systems displace electricity or fossil fuel that would otherwise have been used to produce hot water.</i>	/PoA-DD/ /CPA1-DD/ /METH/ /IM03/	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The CPA includes installation of residential solar water systems ^{/PoA-DD01,CPA1-DD01,IM01/} . This was confirmed by documents review and interviews during onsite visit. Hence the applicability criterion is fulfilled.



<p>2. <i>There are two types of projects included in this category: retrofits and new construction. For the purposes of defining baselines and other requirements the following definitions apply:</i></p> <p><i>(a) Retrofit projects are SWH project(s) that replace existing electric or fossil fuel based water heating system(s) in existing facility(ies);</i></p> <p><i>(b) New construction projects are: (i) SWH project(s) installed in new facility(ies); (ii) SWH project(s) installed in existing facility(ies) that, prior to the project implementation, do not have installed water heating systems; (iii) SWH project(s) installed in existing facility(ies) which require water heating capacity expansions; or (iv) Replacement of failed solar water heating system(s). This methodology is applicable if it is shown (as per paragraph 8) that for new construction projects, conventional electric or fossil fuel based water heating system(s) would have been installed in the absence of the project activity.</i></p>	<p>/PoA-DD/ /CPA1-DD/ /METH/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>The PoA aims to install solar water heater (SWH) in residential communities and low-, middle- and high-income households that don't had in the baseline solar water heaters installation but used electrical devices. Validation team conducted inspection of project households and residential units. PoA-DD and CPA-DD meet this applicability criterion.</p>
<p>3. <i>Commercial SWH systems shall include operational indicators that may be easily interpreted by the intended users of the systems and that indicate that water is being heated by solar energy. The minimum requirement for such an indicator is a visible temperature display (thermometer) on the solar preheat storage tank. The thermometer does not require calibration.</i></p>	<p>/PoA-DD/ /CPA1-DD/ /METH/</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<p>The PoA involves only residential solar water heaters. This is included as eligibility criterion No.9 for CPA inclusion. The condition is fulfilled.</p>



<p>4. To qualify as a small-scale project, the definitions in paragraph 4(d) in the 'General Guidelines to SSC CDM methodologies' (version 15), or the related paragraphs in the latest version of the guidelines are applicable.</p>	<p>/PoA-DD/ /CPA1-DD/ /METH/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Calculation of the requirements of small-scale limit for each technology was provided with clear explanation was supported by evidences^{/ESKOM/}. Each CPA will be limited by number the devices and or by area of SWHs. The program of activity meets this criterion.</p>
<p>5. For residential and commercial SWH projects the hot water consumption rate and temperature at which the hot water is supplied to the load (for example, 40 litres per day at 40°C), that occur during the crediting period are used to determine emissions savings. The consumption rate (and temperature) is the rate (and temperature) of water actually utilized (for example for personal washing or for an industrial process) and is not the rate (and temperature) at which hot water is produced, which may be greater than the rate (and temperature) of consumption.</p>	<p>/PoA-DD/ /CPA1-DD/ /METH/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>In case of SWH the calculation is based on model where the amount of hot water used in accounted for. In middle and high income households the amount of hot water used will be monitored as per arrangements described in PoA DD. The monitoring of generation and consumption of hot water used in the project activity as per applicability of <u>AMS I.J clause 5</u> is clear. The finding was successfully closed such that PoA-DD and CPA-DD meet this criterion.</p>



Applicability Criteria for AMS.II.C version 13 (Heat pumps)

Applicability Criteria	Evidence used	met	not met	N/A	Assessment of validation team (results and means of assessment)
<p>1) <i>This methodology comprises activities that encourage the adoption of energy-efficient equipment/appliance (e.g., lamps, ballasts, refrigerators, motors, fans, air conditioners, pumping systems) at many sites.</i></p> <p><i>These technologies may replace existing equipment or be installed at new sites. In the case of new facilities, the determination of baseline scenario shall be as per the procedures described in the general guidance to SSC methodologies under the section 'Type II and III Greenfield projects (new facilities)'.</i></p> <p><i>The aggregate energy savings by a single project may not exceed the equivalent of 60 GWh per year for electrical end use energy efficiency technologies. For fossil fuel end use energy efficient technologies, the limit is 180 GWh thermal per year in fuel input.</i></p>	<p>/PoA-DD/ /CPA1-DD/ /METH/ /ESKOM/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>The purpose to the PoA is adoption of energy efficient technologies. The program will disseminate emissions free SWH and efficient heat pumps. Applicability justification is in line with methodology. The PoA-DD and CPA meet this criterion.</p>



<p>2. For each replaced appliance/equipment/system the rated capacity or output or level of service (e.g., light output, water output, room temperature and comfort, the rated output capacity of air-conditioners etc.) is not significantly smaller (maximum - 10%) than the baseline or significantly larger (maximum + 50%) than the baseline.</p>	<p>/PoA-DD/ /CPA1-DD/ /METH/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>PoA makes arrangement to ensure that the output capacity of each replaced electric element will not be significantly smaller (maximum -10%) than the baseline. Evidences rpvided in the PoA DD supported the justification. The PoA-DD and CPA-DD meet this criterion.</p>
<p>3. If the energy efficient equipment contains refrigerants, then the refrigerant used in the project case shall be CFC free. Project emissions from the baseline refrigerant and/or project refrigerants shall be considered in accordance with the guidance of the Board (EB 34, paragraph 17). This methodology credits emission reductions only due to the reduction in electricity consumption from use of more efficient equipment/appliances.</p>	<p>/PoA-DD/ /CPA1-DD/ /METH/</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Refrigerant used in the heat pumt shall be CFC free and shall comply to Eskom requiremntns. Montoring arrangement in line with EB 34 pragraph 17 was provided in case the refrigerant used would have global warming potential. Validation team, check the monitoring arrangement and the ex-ante emissions reduction calculation and confirmed that the PoA meet the criterion</p>



ANNEX 3: ASSESSMENT OF BASELINE IDENTIFICATION

Table A-3: Assessment of Baseline Identification (VVS, v. 2.0 §§ 88 – 95)

<input checked="" type="checkbox"/>	Baseline is pre-defined by the methodology
<input type="checkbox"/>	Assessment of baseline see below

Baseline Alternatives identified	In line with the Methodology?	Eliminated	Reasons for elimination / non-elimination from list of alternatives	Evidence used	DOE Assessment	
					Appropriateness of elimination	Assessment of validation team (results and means of assessment)
	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	



ANNEX 4: ASSESSMENT OF FINANCIAL PARAMETERS

Table A-4: Assessment of Financial Parameters (VVS, v. 2.0, §§ 120, 121 / in case financial parameters stem from FSR §122,)

<input checked="" type="checkbox"/>	No financial parameters are used for additionality justification					
<input type="checkbox"/>	Assessment of all financial parameters see below					
Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT	
					Correctness of value applied	Comment
					<input type="checkbox"/>	



ANNEX 5: ASSESSMENT OF BARRIER ANALYSIS

Table A-5: Assessment of Barrier Analysis (VVS, v. 2.0, §§ 124-127)

<input type="checkbox"/>	No barrier parameters are used for additionality justification			
<input type="checkbox"/>	As per additionality justification at CPA level			
<input checked="" type="checkbox"/>	Assessment of barriers see below			
Kind of Barrier (invest, tech, other)	Description of Barrier	Evidence used	Assessment of validation team	
			Appropriateness of information source	Explanation of final result
Access- to-finance	High installation and upfront cost hinder the scaling up of renewable energy alternatives such as solar water heating or efficient technologies such as heat pumps.	Energy Research Centre ^{/ADD/} /PoA-DD/ /EB 68, Annex 27/ /EB 68, Annex 12/	<input checked="" type="checkbox"/>	The barrier is evident. The national utility ESKOM recognises the barrier by introducing a rebate program for households that install solar water heaters or energy efficient heat pumps ^{/ESKOM/} . Despite the rebate program the uptake of SWH and HP is very low in comparison to the target. Further CPAs under this PoA are automatically additional based on Additionality guidance EB 68 Annex 27.



Technological barrier	Solar water heating technologies are not wide spread in the host country hence required skills for installation, maintenance and monitoring are scarce.	National Solar water heating Conference /ADD/ /PoA-DD/ /EB 68, Annex 27/ /EB 68, Annex 12/	<input checked="" type="checkbox"/>	Basing on reliable literature on the host country, the barrier is considered real. Further the CPAs is automatically additional ^{/EB 68 Annex 27/} .
Barrier due to Prevailing Practice	The use of electric geysers and electric appliances is common practice in South Africa.	National Solar water heating Conference /ADD/ /PoA-DD/ /EB 68, Annex 27/ /EB 68, Annex 12/	<input checked="" type="checkbox"/>	Basing on literature on the host country, the barrier is considered real as this is the pervasive baseline case. The adoption of SWH and HP has proved difficult to adopt, and PP has demonstrated that the trend is most likely to continue even in new residential buildings. Further the CPA is automatically additional ^{/EB 68 Annex 27/} .



ANNEX 6: OUTCOME OF THE GSCP

Table A-6: Outcome of the Global Stakeholder Consultation Process
(VVS Version 2.0, §§ 34- 37)

<input checked="" type="checkbox"/>	No comments were received during the global stakeholder consultation period					
<input type="checkbox"/>	Comments were received during the global stakeholder consultation period. The comments (in unedited form) and the consideration/response of the validation team are presented below:					
Comment No.:	Comment by:	Inserted on:	Subject	Comment ^{*)}	Action taken by the validation team to take due account on the comment ^{*)}	Conclusion (incl. CARs CLs or FARs)

^{*)} In case clarifications have been requested by the validation team corresponding rows shall be added



ANNEX 7: ELIGIBILITY CRITERIA ASSESSMENT

Table A-7: Assessment on Eligibility Criteria for inclusion of CPAs under this PoA

A full list shall be included in section B.2 of the PoA-DD and B.5 of the generic CPA-DD.

PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
1	The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA	<p>All installations shall take place in residential buildings connected to the grid within the geographical boundaries of South Africa.</p> <p>The CME will check that this eligibility criterion is met by ensuring that all the installations have completed and</p>	<ul style="list-style-type: none"> ESKOM rebate Form 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion.



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>submitted the Eskom rebate forms. The CME will check the rebate forms. The Eskom rebates are only available to grid-connected households. The rebate forms contain the address of the installed unit so that the CME can check that the unit is installed in South Africa.</p> <p>The CME will perform these checks on a monthly basis for all new</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>installations to ensure that this eligibility criterion is met.</p> <p>The CME will also check that the units are installed in residential households. The installer will confirm this on installation. In addition, this will be checked during the inspection within three months of installation.</p>			
2	Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations	Solar water heaters and heat pumps installed under the	<ul style="list-style-type: none"> • Installation Form, • ESKOM rebate 	<input checked="" type="checkbox"/>	.The CPA inclusion requirement is adequate to meet the eligibility criterion.



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
	(e.g. programme logo);	<p>PoA must be uniquely identified by a serial or barcode number that is recorded on installation of the unit.</p> <p>The address and date of each solar water heating and heat pump installation must be recorded on installation of the unit. This information must be captured on the Eskom rebate form. All the relevant details from the form</p>	Form		



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>must be recorded in the CME's electronic database.</p> <p>The CME will check the serial or barcode number of the units and the addresses and dates of installation recorded on the Eskom rebate forms. These details will be compared with all the units installed thus far under this CPA and other CPAs in the PoA to ensure no double counting.</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		This check will be conducted on a monthly basis by the CME for all new units installed.			
3	The specifications of technology/measure including the level and type of service performance specifications including compliance with testing/certifications;	All solar water heating systems and heat pumps installed under this PoA must adhere to applicable SABS standards. The CME will check that the installers are pre-approved. This will mean that they have received an SABS certificate for their technology. All units installed	<ul style="list-style-type: none"> • pre-approved list of installers approved by CME • SABS standards • ESKOM rebate form • Electronic database 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion and ensure the continued compliance with the applied methodologies applicability criteria.



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>under this PoA must be done by an installer that has been pre-approved for the PoA by the CME. The CME will check that the installer is on the CME pre-approved installer database.</p> <p>All solar water heaters and heat pumps installed under the PoA must be new equipment. The installer must be able to provide purchase records from the supplier on request from the</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>CME to indicate that the solar water heater and/or heat pump is new.</p> <p>All technical specifications of the unit must be available in manufacturer's specifications and the type of unit installed must be recorded upon installation of the unit. The CME will record the details of all units supplied by the pre-approved installers in their database.</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>Manufacturer's specifications of all units provided under this PoA will be kept by the CME. The CME will check that the CPA implementer has used one of the pre-approved installers. The type of unit installed will be recorded on installation on the Eskom rebate form and in the CME's database.</p> <p>All relevant technical specifications of the existing water</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		heating device must be recorded such as type of fuel used, type of unit used and size of geyser. This information (particularly the size of the geyser) will be used to inform the sizing calculations of the unit. These sizing calculations must be recorded by the supplier/installer and submitted to the CME to be recorded in the electronic database.			
4	Conditions to check the start date of the CPA through documentary	The start date of the	<ul style="list-style-type: none"> Installation form 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
	evidence	<p>CPA is the date on which the order for the first unit is placed under the CPA. This is captured by the supplier and recorded in the CME's electronic database. The CME will check the date of the first order placed and this will be the start date of the CPA.</p> <p>The CME will also check that this date is not prior to the date of publication</p>	<ul style="list-style-type: none"> Electronic database ESKOM rebate form 		eligibility criterion and provisions of the project standard that no CPA start date will be prior to the start of PoA validation.



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		of the PoA for global stakeholder consultation.			
5	Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs	Each CPA must meet the applicability criteria of the applicable methodologies. The applicable methodology for solar water heaters is Approved methodology small-scale (AMS) I.J 'Solar water heating systems (SWH)' Version 01, EB 60. The applicable methodology for heat pumps is Approved	<ul style="list-style-type: none"> CPA-DD 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion.



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>methodology small-scale (AMS) II.C 'Demand-side energy efficiency activities for specific technologies' Version 13, EB 48.</p> <p>Note that new CPAs must comply with the latest version of the methodologies as per EB 65, Annex 3. The eligibility criteria will be updated when new versions of the methodologies become available. The updated PoA-DD and generic</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>CPA-DD will be submitted to the DOE who will submit it to the Board for approval. The new CPA will need to follow the PoA-DD and generic CPA-DD with the updated methodologies.</p> <p>The CME will check the CPA-DD drafted by the CPA implementer to ensure that the applicability criteria of the methodologies are complied with by the design of the CPA.</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
6	The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality of CPAs	Each CPA must demonstrate additionality in accordance with the procedure as set out under this PoA. The additionality demonstration is checked by the CME and the selected DOE.	<ul style="list-style-type: none"> CPA-DD 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion.
7	The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local stakeholder consultations and environmental impact analysis	<p>Local stakeholder consultation must be completed by the CPA implementer in accordance with the procedures as set out under this PoA.</p> <p>Environmental impact analysis is</p>	<ul style="list-style-type: none"> Proof of Invitation List of participants List of comments CPA-DD 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		done at PoA level. The CPA implementer is not required to do an environmental impact assessment. Please see Section E of the PoA for more details. The CME will check the environmental impact analysis and ensure it is in line with the legislation of the host country.			
8	Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	The CPA implementer must provide the CME with a signed declaration that no official development	<ul style="list-style-type: none"> ODA Statement CPA-DD Appendix 2 CME confirmation report 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>assistance has been used or will be sourced for the project. .</p> <p>In the cases when the CPA implementer is the CME then a signed declaration is not required as the CME will know whether the CPA implementer has used or plans on using official development assistance.</p>			
9	Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid-connected/	The target group is domestic water heating. This is	<ul style="list-style-type: none"> Installation form 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
	off-grid) and distribution mechanisms (e.g. direct installation)	confirmed by the supplier upon the installation. The CME will also check the CPA-DD to ensure that the CPA is designed to install solar water heaters and heat pumps in residential units.			
10	Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys	Each CPA implementer must apply the monitoring plan and the sampling requirements as set out in this PoA. The CPA implementer must produce	<ul style="list-style-type: none"> CPA implementer Monthly report Application of sampling standard CPA-DD 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		monthly monitoring reports for the CME which will be checked by the CME.			
11	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;	The aggregate savings by a single CPA may not exceed 60,000 MWh per year for electrical end use energy efficiency technologies and the total number of installed square meters of collectors of each individual CPA will remain below the small-scale threshold of 64,000 m ²	<ul style="list-style-type: none"> • CPA-DD • Small scale threshold demonstration calculation XLS 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		applicable to solar energy projects, as per Appendix B of the simplified modalities and procedures for small-scale clean development mechanism projects. Hence, the maximum number of the installations in each CPA is determined by the total energy savings of the heat pumps and solar water heaters and the collector area of the solar water heaters installed.			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>The CPA implementer will be responsible for submitting a monthly report which includes a summary of the collector area installed in the month and the aggregate collector area installed since the start of the CPA. The report must also contain the saving in the month from the heat pumps installed and the aggregate savings for the heat pumps installed since the start of the</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		CPA. The CME will check the monthly reports to ensure that the installations remain below the thresholds.			
12	Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories.	Each unit included in the CPA must not be larger than 1% of the small-scale thresholds defined by the methodology applied. This means that each solar water heater must not have a collector area of greater than 640 m ² and each heat pump must not	<ul style="list-style-type: none"> • CPA-DD • Small scale threshold demonstration calculation XLS 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>have an annual saving of more than 600 MWh per year. See Section C of the PoA for more detail.</p> <p>A check will be done for each technology offered by a new or existing installer included in the pre-selected installers by the CME. The installers cannot offer technologies that will exceed 1% of the threshold under the PoA.</p>			
13	Rights to the carbon credits	The owner of the solar water heater or heat pump must	<ul style="list-style-type: none"> Signed consent form 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>cede their rights to the carbon credits. This is done through ensuring that the agreement between the CPA implementer and the resident of the household is signed prior to installation of the unit.</p> <p>In some cases, an agreement can be signed between the installer and the household and the installer and the CPA implementer to cede rights to the carbon credits.</p>			



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
14	For solar water heating installations, the model-based approach is used. The model must be calibrated as per the requirements in the monitoring plan of the PoA.	The measurements and calibration results are recorded in the database maintained by the CME.	<ul style="list-style-type: none"> Monitoring template Electronic database 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion
15	Operational lifetime of the CPA must not exceed 10 years	<p>The CME will check the CPA-DD to ensure that the operational lifetime of the CPA-DD does not exceed 10 years.</p> <p>The CME will ensure that certified emission reductions are only claimed for 10 years for each CPA.</p>	CPA-DD	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion
16	Starting date of the crediting	The CME will check	CPA-DD	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
	period of the CPA is the date on which it is included in the registered PoA	that the starting date of the crediting period of the CPA is the date on which it is included in the PoA as per eligibility criterion 21. The CME will ensure that the CPA does not generate any certified emission reductions prior to this date.			eligibility criterion
17	Each household or Community Residential Unit is only allowed one type of installation (either a solar water heater or a heat pump).	The CME will check the address of each installation and crosscheck the address of every new installation with existing installations	<ul style="list-style-type: none"> • Installation form • Unit databases 	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		<p>to ensure that only one unit has been installed in the household.</p> <p>The installer will also check that only one unit is installed. This will be checked again within three months of installation at the inspection.</p>			
18	Each CPA must ensure that leakage, additionality, the establishment of the baseline scenario, baseline emissions, eligibility and double counting are unambiguously defined.	The CME will check the CPA-DD to ensure that leakage, additionality, the establishment of the baseline scenario, baseline emissions, eligibility and double	CPA-DD	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		counting are unambiguously defined and are in line with the PoA-DD and the requirements of the methodologies.			
19	Heat pumps must replace existing equipment and cannot be installed at new sites	The heat pumps cannot be installed at new sites. The installer will check the baseline water heating method and this will be recorded in the CME's electronic database. Provided there is a baseline water heating method and the heat pump replaces the existing	Monitoring template Electronic database	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		water heating method then it cannot be considered a new site.			
20	Solar water heaters and heat pumps can only be installed in existing community residential units and middle and high income households. They cannot be installed in new builds.	The CME will ensure that the units are installed in existing community residential units and middle and high income households. The installer will check the baseline water heating method and this will be recorded in the CME's electronic database. Provided there is a baseline water heating	Monitoring template Electronic database	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		method, the community residential unit and middle and high income households cannot be considered new build.			
21	Each SSC-CPA must be approved by the CME and DOE prior to its incorporation into the PoA.	<p>The CME and DOE must approve the inclusion of the CPA into the PoA prior to it being incorporated into the PoA and being allowed to generate certified emission reductions.</p> <p>The CME and the DOE will both provide approval for</p>	Signed agreement by CME	<input checked="" type="checkbox"/>	The CPA inclusion requirement is adequate to meet the eligibility criterion



PP Demonstration				DOE Assessment	
Nr.	Eligibility Criteria	Further Elaboration	Minimum Expected Evidence(s) to be provided during CPA inclusion	Appropriate and sufficient	Explanation of final result
		inclusion in written form.			



ANNEX 8: STATEMENTS OF COMPETENCE OF INVOLVED PERSONNEL



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Nikesh Ravandur Satish

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor	2013-10-18
Validation, Verification		
VCS	Lead Assessor	2013-10-18

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies
3.1	Energy Demand
13.1	Waste Handling and Disposal

236 – Rev. 2, Date: 2012-02-22

236_S01-F003_2012-02-22_rev2.doc

S01-F003 rev0 / 2010-04-19



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Grzegorz Kochaniewicz

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2013-11-03
VCS / ISO 14064-2	Assessor	2013-11-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable energies
14.1	Forestry

173 – Rev. 1, Date: 2012-09-21

173_S01-VA060-F20_2012-09-21_rev1.doc

S01-VA060-F20 rev3 / 2012-10-25



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Ezhilarasu G.

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification)	2015-11-18
VCS / ISO 14064-2	Lead Assessor	2015-11-18

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewable Energies
3.1	Energy Demand
13.1	Waste Handling and Disposal

130 – Rev. 2, Date: 2012-11-19

130_S01-VA060-F20_2012-11-19_rev2.doc

S01-VA060-F20 rev3 / 2012-10-25



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Assessor	2015-08-09
VCS / ISO 14064-2	Assessor	2015-08-09

251 - Rev. 1, Date: 2012-08-10



Statement of Competence

Appointment and authorization according to the procedures of the TÜV NORD JI/CDM Certification Program

Mr. Rainer Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2013-07-03
JI	Senior Assessor Technical Reviewer	2013-07-03
VCS	Senior Assessor Technical Reviewer	2013-07-03

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA	TR SUBCATEGORIES
1.1	Thermal Energy Generation	
1.2	Renewable Energies	1.2.1 Hydro 1.2.2 Wind 1.2.3 Geothermal 1.2.4 Solar 1.2.5 Tidal
4.1	Cement Sector	
4.3	Iron and Steel	
4.5	Waste Heat Recovery	
5.1	Chemical Process Industries	
9.1	Metal Production	
11.1	Chemical Process Industries	
11.2	GHG Capture and Destruction	
12.1	Chemical Process Industries	
13.1	Waste Handling and Disposal	13.1.1 Waste Management

003 - Rev. 5, Date: 2011-08-01