CLEAN DEVELOPMENT MECHANISM (CDM)

investor guide

South Africa

Annex B: CDM projects in development

This annex contains the self-generated list of project details granted on a voluntary basis by some project developers in South Africa. This list is constantly being updated and the individual projects are listed under the numbers B1, B2, etc.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
Vienna, 2003

ANNEX B

CDM Project Ideas from South Africa following limited survey

RSA/001	New England Road Landfill Gas Extraction	Landfill Gas
RSA/002	Durban Landfill Gas to Electricity	Landfill Gas
RSA/003	Stellenbosch Rural Hamlets	Housing / energy efficiency
RSA/004	Bellville-South Landfill Gas CDM Activity	Landfill Gas
RSA/005	Low-cost urban housing upgrade, Khayelitsha	Housing / energy efficiency
RSA/006	Using cooking liquor as furnace fuel and recovery of cooking chemicals	Biomass recovery
RSA/007	Biomass waste recovery for use as alternative fuel in biomass boilers	Biomass recovery
RSA/008	Local Authority Landfill gas recovery project	Landfill Gas
RSA/009	Zimele Efficient Lighting in Rustenburg Mines	Energy efficiency
RSA/010	Application of Photovoltaic System Joubert Park Project	Energy efficiency
RSA/011	Buffalo Flats Community Community Sustainable Housing Project	Housing / energy efficiency
RSA/012	Gasification of Biomass and Waste	Biomass recovery
RSA/013	Maphepheteni Project: Anaerobic biogas generation	Biomass recovery

RSA/014	Northern Gauteng Technikon Solar Heating Project	Energy efficiency
RSA/015	Shaft Veterans' Energy Efficient Houses	Housing
RSA/016	Apricot Inc. Farm Scale Ethanol Production Plant	Energy Conversion
RSA/017	Lekoa Water Co. Electricity Generation	Energy Conversion
RSA/018	Transnet Portfolio	Housing / energy efficiency
RSA/019	Don Apartment Hotels Energy Conservation	Housing / energy efficiency
RSA/020	Chris Hani Baragwanath Hospital	Housing / energy efficiency
RSA/021	Johannesburg Inner City Housing Upgrade	Housing / energy efficiency
RSA/022	SA Breweries	Anaerobic digestion
RSA/023	Natal Portland Cement	Fuel switching/AFRM

RSA 001

ECTION A **Name of Project Developer**	Msunduzi Municipality
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Government
Contact Person	R Raghunandam/ S Townsend
Physical address	150 Mayors Walk, Pietermaritzburg, 3201
Telephone and fax number	Tel: Fax:
Email address and website	Email: townsends@pmbcc.gov.za Web:
Nature of interest in CDM	Project Developer

SECTION B

PROJECT NAME:

NEW ENGLAND ROAD LANDFILL GAS EXTRACTION

Project description Eg: Landfill gas; biodiesel.	Landfill Gas
Technology to be applied and general outline Give a brief description of the technology to be employed and the general	

scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated	X	
	basic planning	X	
	feasibility study	X	
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project			
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane	methane		

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years				
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**

RSA 002

SECTION A

Name of Project Developer	The eThekwini Municipality (Durban, South Africa)
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Government (Waste Management)
Contact Person	Lindsay Strachan (Project Manager)
Physical address	17 Electron Road, Springfield, Durban, 4001
Telephone and fax number	Tel: 031-263 1371/2 Fax: 031-263 0904
Email address and website	Email: Lindsay@dmws.durban.gov.za Web: www.durban.gov.za
Nature of interest in CDM	1. Landfill Gas Utilisation Project 2. Carbon-Black Production / tyre recycling project 3. Sea-lift Hydro power project

SECTION B

PROJECT NAME:

Durban Landfill Gas to Electricity Project (eThekwini Municipality, South Africa)

Project description Eg: Landfill gas; biodiesel.	Landfill gas extraction for methane destruction in spark ignition turbines and the production of up to 10 MW of electrical power fed directly into the existing grid.
Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Technology to be applied: Landfill gas from municipal landfills is a routine feedstock for spark ignition engine generators that can be commercially procured from multiple international firms through a competitive bid process. Such equipment is now commonly and successfully used in many parts of the world, including the industrialized countries in North America, Europe, and Asia, and has been successfully applied in other developing countries. The gas collection system for the flaring as installed in the Durban landfill sites should prove adequate as a pre-injection treatment system for the engine-generators. General Outline: The Durban municipal landfill sites currently collect and flare methane at the Mariannhill and Bisasar Road landfills, and the landfill at La Mercy passively vents landfill gas to the atmosphere. The objective is to use this methane to generate electricity to displace coal-fired energy purchased from the grid for up to 10 MW of capacity initially, and for this to serve as a model for Durban and other municipalities to follow with a total installed capacity of at least 50 MW (half of the estimated national potential). The Durban municipal landfill sites at Mariannhill and Bisasar Road are based on a modern cellular approach with methane recovery built into the cells, and a flaring system installed to dispose of the methane in an environmentally acceptable manner. These landfills are sized and operated to be used for up to 15 more years. The municipality also purchases electricity from the municipal electric company that purchases its electricity primarily from Eskom. Eskom electricity is among the lowest cost sources of electricity in the world. The vast majority of Eskom generated electricity is derived from fully depreciated, mine-mouth coal-fired power stations. The cost of a gas-fired piston engine generator is too high in the current market context to be substituted for the flare, but with an emissions reduction revenue the installation can be justified. The project would be designed to install generation capacity at the multiple landfill sites in progressive steps based on a methane recovery projection plan as cells are put into service. The interconnection with the electricity grid would preferably be at the lower voltage levels for local supply and consumption, but it could in large capacity cases be injected into the higher voltage system at a higher interconnection cost. Off the shelf piston engine generation technology will then be specified, ordered, and be put into operation in sequential steps. The activities in Durban could then be used as a template for

<table>
<tr><td></td><td colspan="3">replicating in other municipalities such as Johannesburg, Pretoria, Cape Town, Port Elizabeth, and other relatively large scale metropolitan areas.</td></tr>
<tr><td rowspan="10">Status of CDM activity
Insert an x in appropriate column where applicable</td><td></td><td>In progress</td><td>Completed</td></tr>
<tr><td>contemplated</td><td></td><td>x</td></tr>
<tr><td>basic planning</td><td></td><td>x</td></tr>
<tr><td>feasibility study</td><td></td><td>x</td></tr>
<tr><td>project design document</td><td></td><td>x</td></tr>
<tr><td>business plan</td><td></td><td>x</td></tr>
<tr><td>validation</td><td></td><td>x</td></tr>
<tr><td>approval</td><td>x</td><td></td></tr>
<tr><td>EIA and public processes</td><td>x</td><td></td></tr>
<tr><td>registration</td><td>x</td><td></td></tr>
<tr><td>presentation for investment</td><td>x</td><td></td></tr>
<tr><td>Project participants
All partners in project</td><td colspan="3">Largely an "in-house" project by the eThekwini Municipality. The City has had discussions with the BMF & DBSA with regards to direct involvement in the project. There have be several other requests from both National & International sources. Canada and associated companies have shown significant interest.</td></tr>
<tr><td>Description of baseline methodology
If completed</td><td colspan="3">The project will result in GHG emissions being lower than "business-as-usual" in South Africa:
What is the proposed Clean Development Mechanism (CDM) project displacing? The electricity sector of South Africa is supplied primarily by the parastatal utility company Eskom. Eskom has primarily coal-fired generation capacity and at least 90% of the MWh produced by Eskom are derived from coal. Eskom currently has a large surplus of coal-fired generation capacity and the baseline will therefore be coal for quite a few years to come since the Eskom price is based on its short run marginal cost which is very low at much less than 1 US cent per kWh produced. The landfill baseline is partial landfill gas collection and flaring and current systems extract and flare some 500m3/hr of LFG. Council budgets have been significantly rationalised with the result of curtailing all funds for LFG management. Funds are offered for strict compliance with National regulations only. The CDM project (with the PCF) can enable additional gas recovery and reduce emissions of methane to the atmosphere.
What would the future look like without the proposed CDM project? Eskom will continue to dispatch its coal-fired capacity to meet the Durban municipal needs and to bring its mothballed coal-fired capacity on line as and when needed since it is clearly the least cost option in the marketplace. DSW would continue to implement its gas collection and flaring at the level of recent years and would not achieve the full emission reduction potential for the Bisasar Road site. Effective gas extraction</td></tr>
</table>

<table>
<tr><td></td><td colspan="4">would reduce annually until systems are defunct – by 2005 is the estimate.
• What would the estimated total GHG reduction be? The country potential for productive use of landfill gas projects is estimated to be close to 100 MW. The initial agreement herein is targeted to capture about 10% of that total or 10 MW. That 10 MW implemented would result in a 15 year potential reduction of 1.614 million tons of CO_2 to the atmosphere plus 270,000 tons of methane. Total equivalent carbon for CER's for the CDM will be no fewer than 3.8 million tons.</td></tr>
<tr><td>Greenhouse gas avoided or reduced
Eg: Carbon dioxide; methane</td><td colspan="4">The greenhouse gases targeted are primarily CO_2 from displacing coal-derived kWh and some additional amount of CH_4 gained from accelerating the deployment of gas collection wells beyond that historically enabled by the municipal budgets approved for DSW.</td></tr>
<tr><td>Emissions to be avoided/reduced and lifetime of project
Eg: 10 000tons CO2 equivalent over ten years</td><td colspan="4">3.8 million tons of CO2 equivalent over the agreement period of 10 years. However, the following calculations show:
Annual for 10 MW total: 107,600 tons CO_2 + (Incremental Methane of 75%* of 24,000 tons or 18,000 tons X 21) = 485,600 tons CO_2 equivalent
Up to and including 2012: 1,022,200 tCO_2 + (171,000 tCH_4 X 21) = 4,613,200 tons CO_2 equivalent
Up to a period of 10 years: 1,076,000 tCO_2 + (180,000 tCH_4 X 18) = 4,856,000 tons CO_2 equivalent
Up to a period of 7 years: 753,200 tCO_2 + (126,000 tCH_4 X 18) = 3,399,200 tons CO_2 equivalent
Up to a period of 14 years: 1,506,400 tCO_2 + 252,000 tCH_4 X 18 = 6,798,400 tons CO_2 equivalent</td></tr>
<tr><td rowspan="2">Nature of application of technology
Place x in appropriate block</td><td colspan="2">Retrofit of existing project</td><td colspan="2">Greenfields project</td></tr>
<tr><td colspan="2">x</td><td colspan="2"></td></tr>
<tr><td rowspan="2">Technology types
Place x or details in appropriate block</td><td>Locally available</td><td>New</td><td>Needed</td><td>Partner sought</td></tr>
<tr><td>x</td><td>x</td><td></td><td></td></tr>
<tr><td rowspan="2">Financing
Place x or details in appropriate block</td><td>Self financed</td><td>Finance to be sourced locally</td><td>Finance required from CDM investor</td><td>Other details</td></tr>
<tr><td>X (at this stage)</td><td></td><td></td><td></td></tr>
</table>

SECTION C

MANDATE

I,

Your name and organisation	-

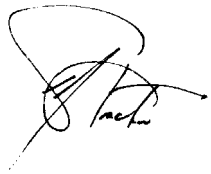
support the development by UNIDO of a South African CDM Project Developers' Portfolio and Investors' Guide.

On the basis that the lead consultants (appointed by UNIDO) and advisory team do not in any way act on our behalf as broker or agent, I hereby grant their appointee our mandate to present the PORTFOLIO and GUIDE to a selection of Japanese industry and other representatives.

Signed: -

Dated: -

Disclaimer: The eThekwini Municipality, in association with the PCF are already carrying out discussions with certain Japanese based companies. It is not required, nor is it advisable, that we consult with other concerns at this stage. However, the eThekwini Municipality has no problem with these statistics being presented, so long as the full acknowledgement of the information sources goes to the eThekwini Municipality and the Prototype Carbon Fund (PCF) and World Bank.



Lindsay Strachan
CDM Project Manager
eThekwini Municipality

RSA 003

SECTION A

Name of Project Developer	The Boland District Municipality
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Government
Contact Person	Kam Chetty, Municipal Manager
Physical address	46 Alexander Street, Stellenbosch, 7599
Telephone and fax number	Tel: 021-887 2900 Fax: 021-887-2271
Email address and website	Email: mm@bolanddm.co.za Web:
Nature of interest in CDM	An option through which the local authority would be able to provide sustainable and energy efficient low-cost housing

SECTION B

PROJECT NAME:

Stellenbosch Rural Hamlets

Project description Eg: Landfill gas; biodiesel.	The project activity is an addition to a greenfield rural hamlet housing project introducing efficiency improvements and various improvements in the embodied energy of the building materials to 3700 yet to be constructed dwellings (some of the impacts of the interventions are yet to be estimated). The housing delivery is aimed at upgrading tenure rights for farm workers. The Hamlets are all within a 100km radius of the Metropolitan area of Cape Town in the Stellenbosch District

<table>
<tr><td></td><td>of the Western Cape, South Africa. Without CDM intervention, the hamlets would be constructed along the lines of a conventional model, which would be far less sustainable.

The following will comprise elements of the proposed CDM project activity:
• Solar water heating through the introduction of solar water heaters instead of electrified geysers;,
• The introduction of stoves using LPG as opposed to electricity;
• Efficient lighting with a change from incandescent to compact fluorescent bulbs;
• Improved thermal performance through:
- Choosing the building materials and components with regard to their embodied energy, toxicity, environmental impact, durability and recycle ability taking into account embodied energy in their utilisation and therefore local materials will be used, such as earth bricks;
- Orientation and design for energy efficiency and natural climate controls using passive solar design; and
- The addition of insulation and ceilings in the houses to reduce the need for electrified space heating.
• Solid waste management that uses recycling on site where possible and thereby reducing trips to and from the landfill site in Stellenbosch;
• Wastewater-Biolytic filtration technology will be used for the wastewater treatment. This technology allows rapid, odour-free environmentally appropriate filtration that produces high quality filtrate without the use of chemicals. This filtrate can be recycled for irrigation or other uses, or discharged into rivers. Methane is emitted when human waste (sewage) is treated anaerobically, for example in anaerobic ponds or lagoons. The Biolytic filtration method would treat the waste aerobically with zero methane production.</td></tr>
<tr><td>Technology to be applied and general outline
Give a brief description of the technology to be employed and the general scope of the project</td><td>• Solar water heaters The introduction of stoves using LPG as opposed to electricity;
• Compact Fluorescent lighting
• Improved thermal performance through:
- Choosing the building materials and components with regard to their embodied energy, toxicity, environmental impact, durability and recycle ability taking into account embodied energy in their utilisation and therefore local materials will be used, such as earth bricks;
- Orientation and design for energy efficiency and natural climate controls using passive solar design; and
- The addition of insulation and ceilings in the houses to reduce the need for electrified space heating.
• Wastewater-Biolytic filtration technology</td></tr>
<tr><td>Status of CDM activity
Insert an x in appropriate column where applicable</td><td>
<table>
<tr><th></th><th>In progress</th><th>Completed</th></tr>
<tr><td>contemplated</td><td></td><td>X</td></tr>
<tr><td>basic planning</td><td>X</td><td></td></tr>
<tr><td>feasibility study</td><td></td><td></td></tr>
<tr><td>project design document</td><td>X</td><td></td></tr>
<tr><td>business plan</td><td>X</td><td></td></tr>
<tr><td>validation</td><td></td><td></td></tr>
<tr><td>approval</td><td></td><td></td></tr>
<tr><td>EIA and public processes</td><td>X</td><td></td></tr>
</table>
</td></tr>
</table>

	registration		
	presentation for investment		
Project participants All partners in project	The Boland District Municipality		
Description of baseline methodology If completed	Not Completed		
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			
Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	Addition of ceilings 702 tons CO_2/year *Roof insulation 74 tons CO_2/year* *Electricity to LPG for cooking 3345 tons CO_2/year* *Solar Water Heating 3330 tons CO_2/year* *Change to compact fluorescent lighting 261 tons CO_2/year* *Shared wall housing 248 tons CO_2 /year* *Change from Concrete block to Rammed earth walls 310.8 tons CO_2/year* *Biolytix filtration 0.899 tons CO_2/year* *Recycling Waste 5.44 tons CO_2/year* ***Total GHG Emissions Avoided 8277.139 tons CO_2/year***		

Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 004

SECTION A

Name of Project Developer	The City of Cape Town
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Government
Contact Person	• Peter Novella – Head of Solid Waste Disposal (City of Cape Town Solid Waste) • Craig Haskins- Key Project Researcher (City of Cape Town Environmental Management Department)
Physical address	- 9th Floor, 38 Wale Street, Cape Town, 8000 - 9th Floor, 44 Wale Street, Cape town, 8000
Telephone and fax number	Tel: 021-487-2716 Fax: 021-487-2476 Tel: 021-4872832 Fax:
Email address and website	Email: Peter.Novella@capetown.gov.za Email:Craig.Haskins@capetown.gov.za Web:
Nature of interest in CDM	Managing the closure of a municipal landfill

SECTION B

PROJECT NAME:

Bellville-South Landfill Gas CDM Activity

Project description Eg: Landfill gas; biodiesel.	The recovery and use of landfill gas at Bellville South landfill site (Cape Town; South Africa) for the generation of renewable energy and subsequent utilisation by the adjacent industrial community.		
Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	The technology which will be applied in the first project activity, includes, interconnected gas pipes, gas wells, leachate removers, dewatering system, demisting system, a blower and gas flaring system. For the second project activity, different options with respect to who will use the gas, is still being considered. One of the technology options includes, the retrofitting a plant which is currently using Low Sulphur Oil (LSO) as an energy source for its thermal energy purposes. This includes provision of the additional systems in each of the furnaces currently being used in the plant so that they are able to use the new fuel which is LFG (landfill gas). The long term objective of this CDM project activity is to gradually transform an "end of life" landfill into a "renewable energy/waste recovery park" which is not only environmentally rehabilitated but also provides socio-economic spin offs for the adjacent industrial and residential communities by creating jobs (through onsite recycling units) and provide renewable energy for a minimum of 15 years. This project consists of two project activities: Project activity will look at maximising the production of gas by actively extracting the Landfill gas from this site instead of progressively capping, whilst passively extracting and flaring the landfill gas as the city was expected to do.. Landfill gas generated from biomass is considered a renewable source of energy.Green energy (either in form of thermal or electrical energy) will be marketed to selected members of the adjacent industrial area (Bellville Sacks Circle) including a glass manufacturer (Consol glass) or nylon spinner (South African Nylon Spinners (SANS)) and/or the City Council owned Waste Water Treatment plant. The gas would be provided for a minimum of 15 years.		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning	X	
	feasibility study	X	
	project design document	X	
	business plan	X	
	validation		
	approval		
	EIA and public processes	X	
	registration		

	presentation for investment		
Project participants All partners in project	The City of Cape Town		
Description of baseline methodology If completed	**Baseline Methodology:** **The following baselines are being considered for the two considered project activities.** **First Baseline**: The Bellville South Landfill site's landfill gas which consists mainly of high concentrations of methane gas (about 57%),is not being utilised and is percolating into the atmosphere. The State, in correspondence with the City waste management has instructed the city to address "Gas management system " for this Landfill site by implementing a passive extraction system in which the gas will be passively extracted from the site and flared. Therefore this management system is considered a baseline for this project activity. **Second Baseline:** One of the potential landfill gas utilisation sites is SANS Fibre. The plant is situated in close proximity to the Bellville South Waste Disposal Site (BSWDS) SANS Fibres presently utilises 3 coal-fired boilers for steam generation and heating of 'thermic' (a heating medium utilised for their operations They have over the past 10 years been investigating the replacement of the coal-fired units with ones utilising electricity. Therefore, should the landfill gas be priced competitively with off-peak electricity, it, rather than coal generated electricity will displace the 18500 tons of coal utilised per year by the plant's three main boilers **Project Activity 1** This includes active extraction and the use of the land fill gas. **Project Activity 2** The landfill gas would directly replaced either: electricity, coal, HFO, LPG or LSO used either as furnace fuel (Consol) or to generate steam for process heat (SANS) in the baseline situation. Both project activities would not have happened without the active recovery of the landfill gas.		
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	Landfill gas will be available at an exploitable level for the next 15 years after which the technology can be transferred to other landfill sites or decommissioned. The crediting period for the project is for 10 years. Avoided emissions approximately 90.1 kilotonnes CO_2 equivalent	
	Retrofit of existing project	**Greenfields project**

Nature of application of technology Place x in appropriate block			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 005

SECTION A

Name of Project Developer	The City of Cape Town
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Government
Contact Person	Osman Asmal
Physical address	Cape Town, South Africa
Telephone and fax number	Tel: 021 - 918 7424 Fax:
Email address and website	Email: Osman.Asmal@capetown.gov.za Web:
Nature of interest in CDM	An option through which the local authority would be able to provide sustainable and energy efficient low-cost housing

SECTION B

PROJECT NAME:

Low-cost urban housing upgrade, Khayelitsha (Cape Town; South Africa)

Project description Eg: Landfill gas; biodiesel.	Low-cost upgrade in which low-cost houses will be retrofitted with an aim to improve thermal performance of housing units through the installation of ceilings, by providing energy efficient lighting and solar water heating in households in Kuyasa, Khayelitsha, Cape Town, South Africa.

<table>
<tr><td>Technology to be applied and general outline
Give a brief description of the technology to be employed and the general scope of the project</td><td colspan="3">The project activity relates to the following 3 interventions per household unit:
• Ceilings and roof insulation
• Solar water heater installation
• Energy Efficient Lighting</td></tr>
<tr><td rowspan="11">Status of CDM activity
Insert an x in appropriate column where applicable</td><td></td><td>In progress</td><td>Completed</td></tr>
<tr><td>contemplated</td><td></td><td>X</td></tr>
<tr><td>basic planning</td><td>X</td><td></td></tr>
<tr><td>feasibility study</td><td>X</td><td></td></tr>
<tr><td>project design document</td><td>X</td><td></td></tr>
<tr><td>business plan</td><td>X</td><td></td></tr>
<tr><td>validation</td><td></td><td></td></tr>
<tr><td>approval</td><td></td><td></td></tr>
<tr><td>EIA and public processes</td><td>X</td><td></td></tr>
<tr><td>registration</td><td></td><td></td></tr>
<tr><td>presentation for investment</td><td></td><td></td></tr>
<tr><td>Project participants
All partners in project</td><td colspan="3">The City of Cape Town</td></tr>
<tr><td>Description of baseline methodology
If completed</td><td colspan="3"><u>A Proposed Baseline Methodology for Kuyasa Housing Retrofit Project Activity.</u>
Baseline for this study will depend on assumptions about the future and it will based on the "take-back effect" and the "suppressed demand effect" which will be experienced, (Winkler and Thorne, 2002). Demand is suppressed due to mainly budget constraints or lack of infrastructure therefore by introducing energy savings that will mean households' income will increase allowing it to move to higher levels of service. However this may not be case, as even after the interventions, energy consumers might tend to spend their savings on more of this energy service, therefore energy consumption practices may not decline nearly as much as we would predict..

Therefore, in order to determine whether the question of suppressed demand will have an impact in determining a baseline for this project activity, it is important to determine the postulated levels of activity in future. This will be done by means of a 10 house demonstration project, in which the level of activities for proposed interventions will be captured, after the project activity. The capturing of levels of activities will be on:
• the impact of the technology on behavioural and attitudinal changes in the households,</td></tr>
</table>

<table>
<tr><td></td><td colspan="4">

- thermal performance modelling,
- Changes in levels of activity.

Based on an analysis of this captured information, it will therefore be possible to assess whether the baseline for the proposed project activity (intervention into 2309 houses), the existing level of activity, should be considered as the baseline, or whether the future expected level of activity, including "development" advances in the provision of energy services and resulting poverty alleviation, should be considered as the baseline.

</td></tr>
<tr><td>Greenhouse gas avoided or reduced
Eg: Carbon dioxide; methane</td><td colspan="4">Carbon Dioxide</td></tr>
<tr><td>Emissions to be avoided/reduced and lifetime of project
Eg: 10 000tons CO2 equivalent over ten years</td><td colspan="4">Solar Water Heaters 2078 tons CO_2/year
Addition of ceilings 460 tons CO_2/year
ADDITION OF CEILING INSULATION 46 TONS CO_2/ YEAR
Change from incandescent bulbs
to compact-fluorescent light bulbs 260.8 tons CO_2/year
Total Avoided Emissions for a crediting period
2844.8 tons CO_2/year</td></tr>
<tr><td rowspan="2">Nature of application of technology
Place x in appropriate block</td><td colspan="2">Retrofit of existing project</td><td colspan="2">Greenfields project</td></tr>
<tr><td colspan="2">• X</td><td colspan="2"></td></tr>
<tr><td rowspan="2">Technology types
Place x or details in appropriate block</td><td>Locally available</td><td>New</td><td>Needed</td><td>Partner sought</td></tr>
<tr><td>• X</td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Financing
Place x or details in appropriate block</td><td>Self financed</td><td>Finance to be sourced locally</td><td>Finance required from CDM investor</td><td>Other details</td></tr>
<tr><td></td><td>X</td><td></td><td></td></tr>
</table>

RSA 006

SECTION A

Name of Project Developer	Mondi Kraft
Logo of Project Developer Insert logo	Mondi Ltd. Mondi Kraft A division of Mondi Ltd
Sector of Project Developer Eg: chemical industry, local government	Paper Industry
Contact Person	Ciska Terblanche
Physical address	Box 1551, Richards Bay, 3900, South Africa
Telephone and fax number	Tel: +27 82 898 5750 / 035 902 2111 Fax: 035 902 2229
Email address and website	Email: ciska_terblanche@mondikraft.co.za Web: www.mondikraft.co.za
Nature of interest in CDM	Recovery of organic waste to displace coal as a fuel and transfer of new technologies.

SECTION B

PROJECT NAME:

The use of the cooking liquor (black liquor) as a furnace fuel and the recovery of the cooking chemicals.

Project description Eg: Landfill gas; biodiesel.	The small old Felixton plant that produces 300 tonnes per day of cardboard from sugar cane bagasse for many years, had not considered the recovery and use of this liquor (through the full chemical recovery process) feasible. Instead

<table>
<tr><td></td><td>Felixton had been pumping this sodium carbonate and organic rich effluent out to sea, emitting it deep in the Mozambique channel along with industrial effluents from other plants in the highly industrialized Richards Bay area.

The project involves retrofitting the old plant with technology that recovers the chemicals and burns off the organic materials as a renewable fuel. This results in a reduction of the burning of coal and the manufacture, purchase and transport of replacement caustic soda. Co-benefits include a reduction in waste streams.</td></tr>
<tr><td>Technology to be applied and general outline
Give a brief description of the technology to be employed and the general scope of the project</td><td>A Connox-based technology which will recover chemicals and burn off the organic materials as a renewable fuel will be used.This technology is presently being designed and produced by a Finnish technology supplier, Conox.</td></tr>
<tr><td>Status of CDM activity
Insert an x in appropriate column where applicable</td><td>
<table>
<tr><th></th><th>In progress</th><th>Completed</th></tr>
<tr><td>contemplated</td><td>X</td><td></td></tr>
<tr><td>basic planning</td><td>X</td><td></td></tr>
<tr><td>feasibility study</td><td></td><td></td></tr>
<tr><td>project design document</td><td>X</td><td></td></tr>
<tr><td>business plan</td><td>X</td><td></td></tr>
<tr><td>validation</td><td></td><td></td></tr>
<tr><td>approval</td><td></td><td></td></tr>
<tr><td>EIA and public processes</td><td>X</td><td></td></tr>
<tr><td>registration</td><td></td><td></td></tr>
<tr><td>presentation for investment</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Project participants
All partners in project</td><td>Mondi Kraft, SSN</td></tr>
<tr><td>Description of baseline methodology
If completed</td><td>Not Completed</td></tr>
<tr><td>Greenhouse gas avoided or reduced
Eg: Carbon dioxide; methane</td><td>GHG mostly avoided will include Carbon dioxide (reduction in the burning of coal) and caustic soda.</td></tr>
<tr><td>Emissions to be avoided/reduced and lifetime of project
Eg: 10 000tons CO2 equivalent over ten years</td><td>This project activity has a 7 year crediting period. Emissions to be avoided include 114968 ton CO_2 per /annum which results in 804776 tons of CO2 for this period..</td></tr>
<tr><td></td><td>Retrofit of existing project</td><td>Greenfields project</td></tr>
</table>

Nature of application of technology Place x in appropriate block	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 007

SECTION A

Name of Project Developer	Mondi Kraft
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Paper Industry
Contact Person	Ciska Terblanche
Physical address	Box 1551, Richards Bay, 3900, South Africa
Telephone and fax number	Tel: +27 82 898 5750 / 035 902 2111 Fax: 035 902 2229
Email address and website	Email: ciska_terblanche@mondikraft.co.za Web:
Nature of interest in CDM	Access to new technology (cleaner production processes)

SECTION B

PROJECT NAME:

The recovery of biomass waste for usage at Mondi Kraft, Richards Bay for generation of renewable energy to utilise as an alternative fuel in biomass boilers

Project description Eg: Landfill gas; biodiesel.	The proposed main project activity has two activities: • Recovery of biomass waste which consists of fines, wood chips, logs etc. presently being dumped at a Richards bay Landfill.

<table>
<tr><td></td><td>Mondi Kraft, and other timber users in the area of Richardsbay presently dump their biomass waste at a local landfill site. With this project activity these entities will no longer dump their biomass waste in this landfill site

• Usage of the biomass waste as an alternative fuels in power boilers at Mondi Kraft, Richards Bay.</td></tr>
<tr><td>Technology to be applied and general outline
Give a brief description of the technology to be employed and the general scope of the project</td><td>Coal based boilers are presently used at Mondi Kraft, Richardsbay to generate steam for the making of pulp paper. Therefore with this project activity, new precipitators will be installed in the existing boilers to assist in converting these boilers into using biomass.</td></tr>
<tr><td>Status of CDM activity
Insert an x in appropriate column where applicable</td><td>
<table>
<tr><th></th><th>In progress</th><th>Completed</th></tr>
<tr><td>contemplated</td><td></td><td>X</td></tr>
<tr><td>basic planning</td><td>X</td><td></td></tr>
<tr><td>feasibility study</td><td>X</td><td></td></tr>
<tr><td>project design document</td><td>X</td><td></td></tr>
<tr><td>business plan</td><td>X</td><td></td></tr>
<tr><td>validation</td><td></td><td></td></tr>
<tr><td>approval</td><td></td><td></td></tr>
<tr><td>EIA and public processes</td><td>X</td><td></td></tr>
<tr><td>registration</td><td></td><td></td></tr>
<tr><td>presentation for investment</td><td></td><td></td></tr>
</table>
</td></tr>
<tr><td>Project participants
All partners in project</td><td>Mondi Kraft</td></tr>
<tr><td>Description of baseline methodology
If completed</td><td>Coal would have been used to provide thermal energy to the paper manufacturing process. GHG Emissions would result from the burning of fossil fuel (coal). The biomass would have been landfilled resulting in methane emissions from landfill. Methane emissions from landfill would not have been recovered and would have percolated into the atmosphere.</td></tr>
<tr><td>Greenhouse gas avoided or reduced
Eg: Carbon dioxide; methane</td><td></td></tr>
<tr><td>Emissions to be avoided/reduced and lifetime of project
Eg: 10 000tons CO2</td><td>
<table>
<tr><td>Activity</td><td>Current Mill</td><td>CDM</td></tr>
<tr><td>CO_2 from coal</td><td>57200</td><td>0</td></tr>
<tr><td>CO_2 from transport</td><td>74</td><td>1142</td></tr>
<tr><td>Fossil CO_2 from imported electricity</td><td>0</td><td>558</td></tr>
<tr><td>CO_2 equivalent ito CH_4</td><td>9280</td><td>0</td></tr>
<tr><td>Total CO_2 emitted</td><td>66555</td><td>1700</td></tr>
</table>
</td></tr>
</table>

equivalent over ten years	**Reduction in CO2 emissions**	**64855**

Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 008

SECTION A **Name of Project Developer**	Sol Plaatje Municipality (Kimberly)
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Goverment
Contact Person	M. Steyn
Physical address	Industria Road Kimberley
Telephone and fax number	Tel 053 8306842 Fax:053 8411956
Email address and website	Email: Lvdlinde@kbymun.org.za Web:http://www.kbymun.org.za
Nature of interest in CDM	Managing the closure of a municipal landfill

SECTION B

PROJECT NAME:

N/A

Project description Eg: Landfill gas; biodiesel.	Landfill gas
Technology to be applied and general	N/A - Project only contemplated thus far

outline Give a brief description of the technology to be employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated	X	
	basic planning		
	feasibility study		
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project			
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years				
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**

RSA 009

SECTION A

Name of Project Developer	Envirolight(pty)Ltd – (Anglo American Group)
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Mining
Contact Person	Melissa Whitehead
Physical address	IIEC Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Establish projects to reduce harmful gas emissions

SECTION B

PROJECT NAME:

Zimele Efficient Lighting in Rustenburg Mines

Project description Eg: Landfill gas; biodiesel.	Energy Efficiency and Retrofit

Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Retrofit mineshafts with energy efficient CFL's. (50 000 Envirolight Bulkheads)		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document		X
	business plan		X
	validation	X	
	approval	X	
	EIA and public processes	X	
	registration	X	
	presentation for investment	X	
Project participants All partners in project	JCL Participants		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	373 058 tons of CO2 mitigated (10 years)			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
	X		X	Total Cost of R11 060 000

RSA 010

SECTION A **Name of Project Developer**	The Greenhouse Project
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Community/Building
Contact Person	Melissa Whitehead
Physical address	IIEC Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Obtain funding and reduce greenhouse gas emmissions

SECTION B

PROJECT NAME:

Application of Photovoltaic System Joubert Park Project Offices

Project description Eg: Landfill gas; biodiesel.	Installation of Photovoltaic System
Technology to be applied and general outline Give a brief description of the technology to be	PV system installation

employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning	X	
	feasibility study		
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	The GreenHouse Project		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	45 tons CO2 mitigated (10 years)			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 011

SECTION A

Name of Project Developer	Buffalo Flats Community Development Trust
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Local Community
Contact Person	Melissa Whitehead
Physical address	IIEC Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Establish projects to reduce harmful gas emissions

SECTION B

PROJECT NAME:

Buffalo Flats Community Community Sustainable Housing Project

Project description Eg: Landfill gas; biodiesel.	Installation of energy efficient technologies in 200 low cost houses		
Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Not specified		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study	X	
	project design document	X	
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment	X	
Project participants All partners in project	Buffalo Flats Community Development Trust		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	1241 tons CO2 mitigated (10 years)			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types	**Locally available**	**New**	**Needed**	**Partner sought**

Place x or details in appropriate block	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 012

SECTION A

Name of Project Developer	Thanya Upliftment Programme
Logo of Project Developer Insert logo	Johannesburg Climate Legacy 2002
Sector of Project Developer Eg: chemical industry, local government	Community/Biogas/Energy
Contact Person	Melissa Whitehead
Physical address	IIEC Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Establish projects to reduce harmful gas emissions

SECTION B

PROJECT NAME:

Gassification of Biomass and Waste

Project description Eg: Landfill gas; biodiesel.	Project will utilize a thermal gasification process to produce "clean" electrical power from renewable bio-resources

Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Not specified		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning	X	
	feasibility study	X	
	project design document	X	
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Thanya Upliftment Programme		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	35 244 tons CO2e (10 years)			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 013

SECTION A

Name of Project Developer	Solar Engineering Services
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Solar/Thermal Energy
Contact Person	Melissa Whitehead
Physical address	IIEC Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Establish projects to reduce harmful gas emissions

SECTION B

PROJECT NAME:

Anaerobic biogas generation – Maphepheteni Project

Project description Eg: Landfill gas; biodiesel.	Anaerobic biogas generation for provision of thermal energy. Install biogas digesters from general waste and produce methane

Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Installation of Biogas Digesters to convert human and animal waste to usable methane gas for energy usage		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document		X
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Solar Engineering Services		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	26 510 tons CO2e mitigated (10 years)			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 014

SECTION A **Name of Project Developer**	Technikon Northern Gauteng
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Solar Energy
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Reduce harmful emissions

SECTION B

PROJECT NAME:

Northern Gauteng Technikon Solar Heating Project

Project description Eg: Landfill gas; biodiesel.	Extension of Solar Heating System to produce 1.2 KW of electricity to provide heated water for all 3 campuses
Technology to be applied and general outline Give a brief description of	Solar Heating Panels

the technology to be employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document		X
	business plan	X	
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Northern Gauteng Technikon, JCL		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	30 016 ton of CO2e mitigated (10 years) Cost: R2 209 316			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X (Extend)			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 015

SECTION A

Name of Project Developer	Recondev (Sec 21), University of Witwatersrand, and Peer Africa (Pty) Ltd
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Housing
Contact Person	Melissa Whitehead
Physical address	IIEC Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	Establish projects to reduce harmful gas emissions

SECTION B

PROJECT NAME:

Shaft Veterans' Energy Efficient Houses

Project description Eg: Landfill gas; biodiesel.	Build 300 Energy Efficient Houses for Veterans Community

Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Thermal insulation of walls and ceilings, solar heating for water, energy efficient lighting, water efficient fittings		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document		X
	business plan	X	
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Recondev (Sec 21), University of Witwatersrand, and Peer Africa (Pty) Ltd		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years				
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 016

SECTION A

Name of Project Developer	Ndiswe Trust
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Bio-diesel
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Apricot Inc. Farm scale Ethanol Production Plant

Project description Eg: Landfill gas; biodiesel.	Project uses waste CO2 generated by industrial ethanol production, plus municipal waste, to feed a special algae that produces high levels of oil. The algae produce up to 60% of their weight in triacylglycerols which

	can easily be converted to bio-diesel through transesterification		
Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Not specified		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document	X	
	business plan	X	
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Ndiswe Trust, JCL		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	9600 tons of CO2e mitigated, Cost: R1 500 000			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 017

SECTION A

Name of Project Developer	Lekoa Water Company
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Electricity
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Lekoa Water Co. Electricity Generation

Project description Eg: Landfill gas; biodiesel.	Project involves the establishment of off grid electricity generating capacity. Generators will utilize methane rich digester gas from Sebokeng water works.

Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	Not specified		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document		X
	business plan	X	
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Lekoa Water Company, Sebokeng		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	4952 tons CO2e mitigated (10 years)			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
			X	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 018

SECTION A **Name of Project Developer**	Iskhus Power
Logo of Project Developer Insert logo	ISKHUS POWER (PTY) LTD
Sector of Project Developer Eg: chemical industry, local government	Energy Savings
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Transnet Portfolio

Project description Eg: Landfill gas; biodiesel.	Conduct audit of Transnet and Propnet buildings and facilities and retrofit of energy saving fittings and education on usage savings
Technology to be applied and general outline Give a brief description of the technology to be	Not specified

employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Iskhus Power, JCL		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	90 893 tons CO2e mitigated – 10 years Cost: R11 171 800			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 019

SECTION A **Name of Project Developer**	Iskhus Power
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Energy Conservation
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Don Apartment Hotels Energy Conservation

Project description Eg: Landfill gas; biodiesel.	Conduct audit of Don Apartments Hotels buildings and facilities and retrofit of energy saving fittings and education on usage savings
Technology to be applied and general outline Give a brief description of	Not specified

the technology to be employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Iskhus Power, JCL		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	7291 tons CO2e mitigated – 10 years Cost: R783 000			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 020

SECTION A **Name of Project Developer**	Iskhus Power
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Energy Conservation
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Chris Hani Baragwanath Hospital

Project description Eg: Landfill gas; biodiesel.	Conduct audit of Baragwanath buildings and facilities and retrofit of energy saving fittings and education on usage savings
Technology to be applied and general outline Give a brief description of	Not specified

the technology to be employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	Iskhus Power, JCL		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	62 597 tons CO2e mitigated – 10 years Cost: R7 973 000			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 021

SECTION A **Name of Project Developer**	Inner City Housing Upgrade Trust (ICHUT)
Logo of Project Developer Insert logo	Johannesburg Climate Legacy 2002
Sector of Project Developer Eg: chemical industry, local government	Solar Heating
Contact Person	Melissa Whitehead
Physical address	Johannesburg, South Africa
Telephone and fax number	Tel: +27 (11) 482-5990 Fax: +27 (11) 482-4723
Email address and website	Email: m.whitehead@iiec.org.za Web: http://www.climatelegacy.org
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Johannesburg Inner City Housing Upgrade

Project description Eg: Landfill gas; biodiesel.	3 Inner city community housing project currently using coal fire water heating to be upgraded using solar heating
Technology to be applied and general outline Give a brief description of the technology to be	Solar Technolgy

employed and the general scope of the project			
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		X
	basic planning		X
	feasibility study		X
	project design document	X	
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project	ICHUT, JCL		
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane			

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	6 884 tons CO2e mitigated – 10 years Cost: R1 145 980			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
	X			
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**
	X			
Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
		X		

RSA 022

Name of Organisation	The South African Breweries Limited
Logo of Organisation Insert logo	
Nature of services given by organisation	Brewing of Long Alcoholic Beverages
Contact Person	Tony Cole
Physical address	The South African Breweries Limited *Postal address:* P.O.Box 782178 Sandton 2146 RSA *Physical address:* 65 Park Lane Sandown Sandton RSA
Telephone and fax number	++27 (11) 881-8111 Voice ++27 (11) 881-8379
Email address and website	tony.cole@sabreweries.com
Nature of interest in CDM	Currently installing anaerobic digestors to treat our effluent. We currently discharge ca 23kte COD pa, which equates to ca. 8million Nm^3 of Methane. Currently we flare at one Brewery. We are commissioning the second UASB plant. Two more will be built next year. Currently the installation of Methane scrubbing and combustion systems is not EVA positive. CMD funding could take these initiatives over the required hurdle rate.

RSA 023

SECTION A

Name of Project Developer	Natal Portland Cement
Logo of Project Developer Insert logo	
Sector of Project Developer Eg: chemical industry, local government	Cement manufacture
Contact Person	Ian Naidoo
Physical address	199 Coedmore Rd Bellair Durban Kwa-Zulu Natal
Telephone and fax number	Tel: 031 450 4517 Fax: 031 451 9010
Email address and website	Email: ian.Naidoo@npc-eagle.co.za Web: www.npc-eagle.co.za
Nature of interest in CDM	

SECTION B

PROJECT NAME:

Alternative Fuels and Raw materials (AFRM)

Project description Eg: Landfill gas; biodiesel.	Replace the use of traditional fossil fuels with alternatives from other industries.

Technology to be applied and general outline Give a brief description of the technology to be employed and the general scope of the project	As above		
Status of CDM activity Insert an x in appropriate column where applicable		**In progress**	**Completed**
	contemplated		
	basic planning		
	feasibility study		
	project design document		
	business plan		
	validation		
	approval		
	EIA and public processes		
	registration		
	presentation for investment		
Project participants All partners in project			
Description of baseline methodology If completed			
Greenhouse gas avoided or reduced Eg: Carbon dioxide; methane	Carbon dioxide; methane		

Emissions to be avoided/reduced and lifetime of project Eg: 10 000tons CO2 equivalent over ten years	Dependant on substitution of traditional fuel.			
Nature of application of technology Place x in appropriate block	**Retrofit of existing project**		**Greenfields project**	
Technology types Place x or details in appropriate block	**Locally available**	**New**	**Needed**	**Partner sought**

Financing Place x or details in appropriate block	**Self financed**	**Finance to be sourced locally**	**Finance required from CDM investor**	**Other details**
	X			