

Clean Development Mechanism
South Africa
Designated National Authority



energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

Private Bag X 19 , Acardia ,Pretoria, 0007, Tel:012-4444116, Fax: 012 444 4501
Private Bag X9111, Cape Town, 8000, Tel: 021-469 6412, Fax: 021-465 5980

Project Design Document (PDD)

Southern African Fuel Switch PoA - South Africa CPA

Project reference number (office use only)	
Date received (office use only)	

NOTES ON COMPLETING THIS PROJECT DESIGN DOCUMENT
Please provide this PDD in both hard-copy

Part A: Project Proponent Details

Project Name	Southern African Fuel Switch PoA - South Africa CPA
Date of Submission of PIN	30/08/2012

Project Developer	
Name	Impala Platinum Pty Ltd
Organizational Category	Private Company
Legal Status	Limited Liability Company
Street Address	Impala Operations District Phokeng PO BOX 1050 Rustenburg 0300 South Africa
Postal Address (if different from above)	Impala Operations District Phokeng PO BOX 1050 Rustenburg 0300 South Africa
Website Address	www.implats.co.za
Main Activities	<p>Impala Platinum Holdings Limited (Implats) is in the business of mining, refining and marketing of platinum group metals (PGMs), as <u>well</u> as nickel, copper and cobalt.</p> <p>In the 2011 financial year, Implats produced 1.84Moz of platinum (approximately 25% of global supply) and 3.77Moz of PGMs. The group employs approximately 57,000 people (including contractors) across its operations and is one of the most efficient and lowest cost primary platinum producers in the world.</p> <p>Implats' mining interests are found on the two most significant known platinum group mineral-bearing ore bodies in the world:</p> <p>The Bushveld Complex in South Africa: On the western limb - <u>Impala Platinum</u> and the Leeuwkop project On the eastern limb - <u>Marula Platinum</u> and <u>Two Rivers Platinum</u></p> <p>The Great Dyke in Zimbabwe The Great Dyke in Zimbabwe where Implats operates <u>Zimplats</u> and has an interest in <u>Mimosa Platinum</u>.</p>
Summary of Financial Performance in last fiscal year	<ul style="list-style-type: none"> • Revenue up 1% to R15.4 billion (US\$2.1 billion) • Cost of sales increased by 3% to R10.6 billion • Margins maintained above 30% • Headline earnings per share increased 66% to R5.73 • Interim dividend of R1.35 per (share)

Contact Person(s)	Nicolene De Bruin- Impala Platinum (Pty) Ltd Sean Buchanan - Ecometrix (Consultant)
Telephone	Impala Platinum (Pty) Ltd Work: +27(0)14 569 7043 Cell: +27(0)82 566 7395 Ecometrix Work: +2711 463 1009
Fax	Fax: + 27(0)14 569 7056
Email Address	Nicolene.deBruin@implats.co.za
Project Partners	
Provide the following Information for all project partners (copy and paste relevant sections of the table if information is to be provided on more than one partner organisation)	
Name	
Nature of partner	
Organizational Category	
Legal Status (if private company)	
Street Address	
Postal Address (if different to Street Address)	
Website Address	
Main Activities	
Contact Person(s)	
Telephone	
Fax	
Email Address	
Contractual Arrangements	
Contractual arrangements between various entities involved	NA at this time

Part B: Project Overview (Technical Summary, Location and Schedule)

Technical Summary of the project									
Objective of the Project	The objective of this programme is to reduce the use of fossil fuels in thermal energy production equipment and thus to reduce the CO ₂ emissions associated with the use of the thermal energy generation equipment in industrial and cogeneration processes.								
<p>Project Description</p> <p>‘Southern African Fuel Switch Programme - South Africa CPA’ (the SSC-CPA) is a small scale project activity that will promote and facilitate a switch from fossil fuel use to renewable biomass use in thermal energy production applications, including cogeneration in Southern Africa. This SSC-CPA is implemented under the PoA titled “Southern African Fuel Switch Programme”. The PoA is a voluntary initiative of Impala Platinum Ltd (herein referred to as Implats). The project activities included in the programme will be geographically located in South Africa, Zimbabwe and Botswana. The framework for implementation involves the voluntary participation of potential project implementers that would like to operate as a CPA under the PoA.</p> <p>A CPA will consist of a project activity which looks to implement fuel switch technology in thermal energy generation equipment in industrial or power processes such as dryers, boilers or cogeneration units. This will involve changing the fuel source used to produce the thermal energy or co-generation from a fossil fuel source to a renewable biomass source.</p> <p>The exact retrofits/modifications/replacement or new equipment technology to be used to facilitate the fuel switch will be detailed at CPA level based on the characteristics of the original fossil fuel source versus that of the new renewable biomass source and the requirements of the thermal energy generation process. The fuel switch may be a total fuel switch to a renewable biomass source as compared to the baseline fossil fuel firing or co-firing or it may be a part switch whereby the project activity involves co-firing.</p> <p>The CME for the SAFS programme is K2011/117952/07 (Pty) Ltd (South Africa) trading as African Sustainability Initiative (ASI).</p>									
<p>Project Constraints</p> <p>No constraints to project development.</p>									
Technology to be employed	The CPA is considered under industrial processes which include the use of a dryer(s) to produce heat for use in the process where renewable biomass is combusted as the fuel source, with or without fossil fuel.								
Greenhouse Gases Targeted	CO ₂ : Carbon dioxide								
Emission reductions	<p><i>Indicate the expected emission reductions that will occur due to the project.</i></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Potential Emission Reductions</th> </tr> </thead> <tbody> <tr> <td>2013 (month 07 - 12)</td> <td>13 694</td> </tr> <tr> <td>2014</td> <td>27 388</td> </tr> <tr> <td>2015</td> <td>27 388</td> </tr> </tbody> </table>	Year	Potential Emission Reductions	2013 (month 07 - 12)	13 694	2014	27 388	2015	27 388
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Baseline &Additionality Assessment	<p>Additionality is demonstrated in line with the Standard for demonstration of additionality, development of eligibility criteria, and application of multiple methodologies for programme of activities.</p> <p>The project activity uses the ‘<i>Simplified modalities and procedures for small scale clean development mechanism project activities</i>’ to assess additionality as per the eligibility criteria established in the PoA. This PoA demonstrates that the project would not have occurred anyway in the absence of CDM by demonstrating that a financially more viable alternative to the proposed project activity would have resulted in higher emissions and therefore faces a barrier due to investment.</p>												
Monitoring	The process of using renewable biomass as a substitute for coal will be monitored to confirm emission reductions.												
Type of project/activities													
a. Energy Supply	n/a												
b. Energy Demand	n/a												
c. Industrial Process	The project activity shall reduce emissions by substituting fossil fuels with renewable biomass.												
d. Transport	n/a												
e. Waste Management	n/a												
f. Forestry/ land use	n/a												
g. Other	n/a												
Project Boundary	<p>The boundary of the PoA is defined as the geographical area within which all the implemented small-scale CDM programme activities (SSC-CPAs) included in the PoA will occur. This geographical area includes South Africa, Zimbabwe and Botswana.</p>												
Indicate Emissions outside the Project Boundary	Minimal. Emissions from the production and transportation of the renewable biomass to the project site are anticipated. These will be identified and monitored.												

Location of the Project	
Province	The geographical area of the PoA consists of South Africa, Zimbabwe and Botswana. This CPA boundary is the boundary of South Africa.
Municipality	For South Africa - Rustenburg Municipality

Nearest city/large town	For South Africa - Rustenburg
Brief description of the location of the project site	The geographical area of the PoA consists of South Africa, Zimbabwe and Botswana. The first SSC CPA is located in the North West Province in South Africa, just outside the town of Rustenburg in the Bhokeng District. The location of the project includes the dryers at the Implats site.

Project Schedule/Timetable	
Earliest Project Start Date	01/07/2013 or inclusion of the CPA in the PoA, whichever is the latter.
When is the expected first year of CER delivery	2013
Project Lifetime	The PoA lifetime is 28 years.
Project End Date	PoA end date is 2041
Crediting Period	The methodology stipulates option 1 or option 2 be chosen. In the case of the South Africa CPA option 2 is chosen. Hence the crediting period is 7 years, renewable 3 times i.e. 21 years.
Current Status or phase of the project	The project activity is currently under development.
DNA Approval	This project has not previously been submitted to the DNA for approval.
Approval by other bodies	The project has not been submitted to any government departments for regulatory approval.

Part C: Performance Against the DNA’s Sustainable Development Criteria

South Africa has identified the following sustainable development criteria and indicators against which each CDM project will be assessed. Please provide your interpretation of how this project will address each of these criteria and indicators where they are relevant to the project. If the space provided is not sufficient please append additional information as required.

NOTE: For all indicators which are of relevance to the project show how the performance of the project against these indicators can be objectively monitored and measured on an ongoing basis.

1. Economic: Does the project contribute to national economic development?

- The programme encourages the use of renewable fuel sources. This reduces the dependence on fossil fuel sources and will diversify the countries energy supply as well as contribute to the mitigation of climate change.
- Secondly, the use of renewable biomass will create employment at the processing operations and/or at the plantation/biomass residue sites which will need to be accessed in order to produce the processed biomass.

<ul style="list-style-type: none"> The investment in new production facilities directly contributes to national economic development. 	
<p>2. Social: Does the project contribute to social development in South Africa?</p> <ul style="list-style-type: none"> The programme makes an indirect contribution to social development in that it promotes the use of renewable fuel sources. These will have to be sourced from a local supplier and as such there will be potential new employment opportunities associated with the fuel switch programme. In addition to the processing of renewable biomass, employment will also be created through the collection and transportation of the biomass and the promotion of farmers at dedicated renewable biomass plantations. Therefore the programme will result in the alleviation of poverty and improve the quality of life. 	
<p>3. Environmental: Does the project conform to the National Environmental Management Act principles of sustainable development? Please provide brief comment for each of these below.</p> <ul style="list-style-type: none"> The programme will reduce the amount of CO₂ emissions as a result of the use of fossil fuels as a fuel source for thermal energy generation. This will contribute towards the Host Parties emission reduction targets as well as the mitigation of climate change. The project activities implemented under this programme will demonstrate the replicable use of clean renewable energy technologies. 	
i) That the disturbance of ecosystems and loss of biological diversity are avoided, or where they cannot be avoided, are minimised and remedied	n/a
ii) That pollution and degradation of the environment are avoided, or where they cannot be altogether avoided, are minimised and remedied	The project will not result in the pollution and degradation of environment.
iii) That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied	The project will not disturb any landscape or cultural heritage, as it takes place in existing households
iv) That waste is avoided , or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner	n/a
v) That the use and exploitation of non-renewable resources is responsible and equitable , and takes into account the consequences of the depletion of the resource	n/a
vi) That the development, use and exploitation of renewable resources is	n/a

<p>responsible and equitable, and takes into account the consequences of the depletion of the resource.</p>	
<p>vii) That a risk averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions</p>	<p>n/a</p>
<p>vii) That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied</p>	<p>n/a</p>
<p>Other comments Please provide any other comments on how this project contributes to sustainable development in South Africa (optional)</p>	

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
Environmental	Impact on local environmental quality	<p>The project will have positive impacts on local environmental quality through:</p> <ul style="list-style-type: none"> • Reducing anthropogenic CO2 emissions associated with the use of fossil fuel generated electricity. • Reducing air pollution associated with the use of fossil fuels and improves local air quality. • The project will not have any impacts on water quality or generation of solid waste; • The project will not disturb any landscape or cultural heritage, as it takes place in industrial areas.

Indicators in Support of the Project Approval Criteria			
Category	Indicator	Comment	
	<ul style="list-style-type: none"> Change in usage of natural resources 	<ul style="list-style-type: none"> Impact of the project on community access to natural resources Impact of the project on the sustainability of use of water, minerals or other non renewable natural resources Impact of the project on the efficiency of resource utilisation 	<p>The project has no impact on community access to natural resources. Furthermore, the project will make use of renewable biomass to replace fossil fuels, which will assist in addressing poverty by providing jobs in communities. The project activity does not bring negative impacts. Hence, the project rather promotes sustainable use and access to natural resources. Furthermore the project will utilize renewable energy and reduce greenhouse emissions.</p>
	<ul style="list-style-type: none"> Impacts on biodiversity and ecosystems 	<ul style="list-style-type: none"> Changes in local or regional biodiversity arising from the project 	<p>The project does not affect biodiversity and ecosystem.</p>

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
Economic	<ul style="list-style-type: none"> • Impact of the project on foreign exchange requirements • Impact of the project on existing economic activity in the area • Impact of the project on the cost of energy • Impact of the project on foreign direct investment 	<ul style="list-style-type: none"> • The project will not impact the foreign exchange requirements. • The creation of job opportunities at dedicated plantation for renewable biomass. • The project supports the energy scarcity crisis that is prevalent in South Africa by displacing electricity supplied from the grid.
	<ul style="list-style-type: none"> • Positive or negative implications for the transfer of technology to South Africa arising from the project • Impacts of the project on local skills development • Demonstration and replication potential of the project 	<ul style="list-style-type: none"> • The international experts involved on the project design and operation will work with Southern African persons leading to local skills development.

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
Social	<p>Alignment with national provincial and local development priorities</p> <ul style="list-style-type: none"> • How the project is aligned with provincial and national government objectives • How the project is aligned with local developmental objectives • Impact of the project on the provision of, or access to, basic services to the area • Impact of the project on the relocation of communities if applicable • Contribution of the project to a any specific sectoral objectives (for example, renewable energy targets) 	<p>The project complies with the Government policy:</p> <ul style="list-style-type: none"> • Promotion of CDM; • Improvement of environmental quality; • Reduction on reliance of fossil fuels and aiding the country meet renewable energy targets; • Enhancing economic development and job creation; • Greenhouse gas reduction. <p>No relocation of communities will take place.</p> <p>The project will assist in addressing the energy poverty within the Southern African countries by reducing the reliance on grid electricity.</p>

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
	<p>Social equity and poverty alleviation</p> <ul style="list-style-type: none"> • Impact of the project on employment levels? (specify the number of jobs created/lost; the duration of time employed, distribution of employment opportunities, types of employment, categories of employment changes in terms of skill levels and gender and racial equity) • Impact of the project on community social structures • Impact of the project on social heritage • Impact of the project on the provision of social amenities to the community in which the project is situated • Contribution of the project to the development of previously underdeveloped areas or specially designated development nodes 	<p>As stated previously the project will contribute to social development in the following ways:</p> <ol style="list-style-type: none"> 1. Employment opportunities in the renewable biomass processes. 2. Improved standards of living.

Indicators in Support of the Project Approval Criteria		
Category	Indicator	Comment
General	General Project Acceptability <ul style="list-style-type: none"> • Are the distribution of project benefits deemed to be reasonable and fair? 	The project will benefit the Southern African community through the creation of new jobs. Furthermore, it will contribute towards to sustainable economic development and global emission reductions. The international experts involved on the project development will contribute to knowhow transfer into South Africa.

Part D: Finance

Project Costs	
Development Costs (R's)	Not available.
Installed Costs (R's)	Not available.
Other Costs (R's)	Not available.
Total Project Costs (R's)	The project is still on an early stage. The financial model has not been finalized as yet.
Sources of Finance	
Equity	Implats will provide approximately 100% equity.
Debt (long term)	n/a
Debt (short term)	n/a
Amount not identified (R's)	n/a
Total CDM Contribution sought	The project is estimated to generate a total of 191,716 CERs, over the first crediting period of 7 years.
Expected Price of CER in case of a contract to purchase for: A period of 7 years A period of 10 years A period of 14 years (2x7 years)	There is currently no purchase agreement signed with anyone.
Indicate the projected Internal Rate of Return for the project with and without CER revenues.	n/a
Constraints on tradability of carbon cred	n/a
Preliminary discussions with potential purchasers	No ERPA has been signed at this time.