

Social Cost Benefit Analysis of Projects of a South African DFI, the Industrial Development Corporation

A Thesis
presented to

The Graduate School of Business
University of Cape Town

In partial fulfilment
of the requirements for the
Master of Philosophy in Development Finance Degree

by
Lungile L. Tom
December 2012

Supervised by: Dr SL McPherson

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

PLAGIARISM DECLARATION

I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own.

I have used a recognised convention for citation and referencing. Each significant contribution and quotation from the works of other people has been attributed, cited and referenced.

I certify that this submission is my own work.

I have not allowed and will not allow anyone to copy this essay with the intention of passing it off as his or her own work

Signed by candidate

Lungile L. Tom

ABSTRACT

The need for social cost benefit analysis for appraising industrial projects by development finance institutions and developing economies has been seen to being relevant over the years and even since the 1960s. As such major global organisations, namely the United Nations Industrial Development Organisation (UNIDO), Organisation for Economic Cooperation and Development (OECD) and the World Bank have taken a step to sponsor research for developing practical methodologies for this purpose. It is quite evident that these organisations view social cost benefit analysis as a useful tool in project evaluation. These organisations have also issued various publications for this purpose. The first comprehensive methodologies for social cost benefit analysis were developed in the 1960s and this clearly provides the early rise of the usefulness and debate surrounding social cost benefit analysis.

A study was performed in India in the early 90s where various projects from a state development finance institution were evaluated in order to conclude if a formal social cost benefit analysis was performed, would the projects been selected for investments by the state development finance institution. This research has been enthused by this Indian study as there is little to no research performed in the South African context for social cost benefit analysis in project evaluation.

Previous literature from earlier years regarded the available methodologies for social cost benefit analysis as being too demanding in terms of the skill required as well as the information required for the performance. Over the years, UNIDO has developed software (COMFAR) in order to assist in the application of the methodology for social cost benefit analysis. This software has improved on the feasibility of performing social cost benefit analysis. This research follows the UNIDO Guidelines for Project Evaluation Methodology, which was also used in the Indian study. This methodology has also been incorporated in the COMFAR software.

In summary, this research endeavours to conclude on whether there is any value in performing a formal social cost benefit analysis in project evaluation by DFIs.

TABLE OF CONTENTS

PLAGIARISM DECLARATION	i
ABSTRACT	ii
TABLE OF CONTENTS	iii
LIST OF FIGURES AND TABLES	v
GLOSSARY OF TERMS	vi
ACKNOWLEDGEMENT	vii
1 INTRODUCTION	1
1.1 Research Area.....	1
1.2 Problem Statement	3
1.3 Purpose and Significance of the Research.....	4
1.4 Research Questions and Scope	5
1.5 Research Assumptions	6
2 LITERATURE REVIEW	8
2.1 Introduction	8
2.2 Social cost benefit analysis today.....	9
2.3 Social rates of discount.....	9
2.4 Shadow Prices	10
2.5 Social cost benefit analysis in DFIs and methodologies	10
2.6 Social cost benefit analysis study in India.....	12
2.7 Conclusion.....	13
3 RESEARCH METHODOLOGY	14
3.1 Research Approach and Strategy	14
3.2 Data Collection, Frequency and Choice of Data	21
3.3 Sampling.....	22
3.4 Data Analysis Methods	23
3.5 Research Reliability and Validity.....	23
3.6 Limitations	24
4 RESEARCH FINDINGS, ANALYSIS AND DISCUSSION	25
4.1 Research Findings	25
4.2 Research Analysis and Discussion	31
5 RESEARCH CONCLUSIONS.....	33
6 RECOMMENDATIONS FOR FUTURE RESEARCH.....	35
REFERENCES.....	36
APPENDICES.....	39

APPENDIX A – PROJECT RESULTS 39

LIST OF FIGURES AND TABLES

	Page
Table 4.1.1 Value Added Analysis Summary	25
Table 4.1.2 Net Foreign Exchange Effect Summary	27
Table 4.1.3 Employment Effects Summary	28
Table 4.1.4 Economic Appraisal Summary	30

GLOSSARY OF TERMS

COMFAR	Computer Model for Feasibility Analysis and Reporting
DFI	Development Finance Institution
IDC	Industrial Development Corporation
N/A	Not Applicable
NPV	Net Present Value
OECD	Organisation for Economic Co-Operation and Development
SCBA	Social Cost Benefit Analysis
SDR	Social Discount Rate
SIDC	State Industrial Development Corporation
UNIDO	United Nations Industrial Development Organisation
EV	Economic Value

ACKNOWLEDGEMENT

I would like to extend my gratitude to UCT Graduate School of Business for introducing a well-rounded programme. Further, I would like to extend my gratitude to Professor Nicholas Biekpe for taking constantly informing the class about the importance of research and urging us to try by all means to aim for acceptable work. The programme would also not exist without the support received from all the staff that is responsible for this programme, for which I am grateful.

The inspiration to perform research surrounding projects was obtained by the Dr Sharron McPherson. I would like to extend my gratitude for providing the platform for the inspiration for this research and all the insight provided.

Lastly, I would like to extend my gratitude to my husband and my family who are always my number one supporters in everything I do. They provide me with the necessary will to endeavour to better myself.

1 INTRODUCTION

1.1 Research Area

During the 1960s and 1970s, development finance institutions (DFIs) proliferated around the world as financial intermediaries that aimed to improve social welfare¹. DFIs are state owned institutions that are thus primarily used as a conduit for development in a country. They are thus also viewed as a means to achieve some social objectives of a country. The objectives DFIs are primarily development focused and aligned with the interests and objectives of a national government; there is thus a clear dichotomy from the objectives of business which are primarily profit maximisation (seeking a commercial return on investment). According to Yaron (2006), DFIs were considered essential to finance economically warranted operations that were not attractive to financial institutions that were private and for-profit. As DFIs continue to have a substantial share of the financial sector assets, it is very important to assess their performance² and the investments made.

Successful projects are usually high impact transactions and have the capability of uplifting communities and addressing the nation's social welfare; they enable DFIs to achieve their objectives and that of a nation. The investment decisions made by DFIs are thus important in strengthening the development impact of successful projects. In order to ensure that DFIs are altruistic seekers in place of commercial return seekers, the performance of social benefit cost analysis for investments is said to be necessary by many; as it will enable the evaluation of the extent of contribution an investment may make on national development objectives such as industrial growth, self-reliance, employment generation, regional development, and income distribution³.

The World Bank recently performed a research where it highlighted that the performance of a cost benefit analysis allows for the opportunity to consider quantitative as well as qualitative factors when making an investment decision in projects. Each of these factors

¹ Manuela Francisco, Yira Mascaró, Juan Carlos Mendoza and Jacob Yaron (2008), Measuring the Performance and Achievement of Social Objectives of Development Finance Institutions, p2.

² Manuela Francisco, Yira Mascaró, Juan Carlos Mendoza and Jacob Yaron (2008), Measuring the Performance and Achievement of Social Objectives of Development Finance Institutions, p2.

³ Satya Prakash Singh and Manoj Anand (1994), Social cost benefit analysis: applications and needs for standard, The Management Accountancy, p532.

are unique to each project, country and region within a country. It is clear that the project appraisal system for DFIs is required to be all-encompassing of all national government objectives and a system that will enable the inclusion of such is said to include a formal social cost benefit analysis along with the standard profit analyses performed in the project appraisal process. This stems from the understanding that DFIs have the duty of endeavouring the achievement of developmental objectives as set by the government which also have a social focus. It is also important to note that projects are usually judged in terms of their impact on the economy and this impact is evaluated by using parameters reflecting national goals, social objectives and global facts.

Currently, the project appraisal system of South African and many other DFIs do not involve a formal social cost benefit analysis except for the mention of number of persons employed, the location of the project with an emphasis being made if the location is an impoverished area and whether there is import promotion or substitution⁴. The above however opposes the primary objectives of DFIs, and it is evident that the inclusion of a social cost benefit analysis is necessary for DFI project appraisals. The economic appraisal of projects involves the analysis of costs and benefits of the proposed projects with a view to optimally allocate scarce resources among alternative investment opportunities (Singh and Anand (1998)). This research will seek to analyse the projects that have been funded a South African DFI, more specifically the Industrial Development Corporation (IDC), in order assess if the funded projects would have been selected if a formal social cost benefit analysis was performed. The research to be performed is drawn from a similar study that was performed on the State Industrial Corporation of India⁵. India and South Africa are both emerging economies and there may be comparisons that can be drawn from this research and that of India. This research will thus highlight any existing gaps in the appraisal system of projects by DFIs and emphasise the importance of the performance of a formal social cost benefit analysis on projects selected by DFIs.

⁴ Satya Prakash Singh and Manoj Anand, Social Cost Benefit Analysis of Projects of a State Industrial Development Corporation, Prajnan Vol. 22, No. 3, 1993, , p303

⁵ ⁵ Satya Prakash Singh and Manoj Anand, Social Cost Benefit Analysis of Projects of a State Industrial Development Corporation, Prajnan Vol. 22, No. 3, 1993,

1.2 Problem Statement

Social cost benefit analysis is a technique of project evaluation designed to ensure that projects are selected in accordance with their social or national profitability⁶. Further, social benefit cost analysis also refers to economic appraisal involving the analysis of costs and benefits of proposed projects with a view to optimally allocate the scarce resources amongst alternative investment opportunities⁷. It also assists in the selection of projects for which a country's resources are most appropriate. This speaks to the precise primary objective of DFI investment decisions.

There have been several theoretical and individualistic observations that have been made regarding the application of social cost benefit analysis. Ranganathanf (1976) pointed out that social cost benefit analysis will provide a framework for explicitly incorporating the development objectives in its evaluation procedure. Some have pondered on the benefits of social cost benefit analysis in addition to the traditional project appraisal procedures as well as the difficulties in implementing social cost benefit analysis. In all discussions, it is important to bear in mind that social cost benefit analysis provides the technology or methodology of rational decision making⁸.

A study was conducted in India for the assessment of the impact of social cost benefit analysis on funded projects by an Indian DFI. The study was of the opinion that it is obvious that projects must be appraised in terms of social cost benefit criteria, if one looks at the objectives of DFIs. The over-arching conclusion to be reached in the study was if a formal social cost benefit analysis was conducted on the projects that were already appraised and selected by the DFI, what would have been the decision regarding the selection of those projects. This paper will conducted be on the back of the Indian paper, however, in a South African context. South African DFIs are more and more being placed with a proactive role of development and industrialisation in order to address some of the government's national objectives, including social disparities existing in the country. The relevance, significance, and impact of social cost benefit analysis for project appraisal is

⁶ Frances Stewart (1975), A note on social cost-benefit analysis and class conflict in LDCs, World Development Volume 3, Issue 1, January 1975, Pages 31-39

⁷ Satya Prakash Singh and Manoj Anand (1994), Social cost benefit analysis: applications and needs for standard, The Management Accountancy, p532

⁸ Frances Stewart (1975), A note on social cost-benefit analysis and class conflict in LDCs, World Development Volume 3, Issue 1, January 1975, Pages 37

worth pursuing as it may enhance the traditional methods of project appraisal thus enhancing the project selection decision and the impact of the selected project. Social cost benefit analysis would also address whether traditional methods of project evaluation used by DFIs are sufficient for meeting their developmental goals. From the afore mentioned, it can be inferred that social cost benefit analysis in project appraisal is relevant as it can also be applied by not only DFIs but also by government departments.

1.3 Purpose and Significance of the Research

It is often said that entrepreneurship and industrialisation are great contributors to job creation and economic growth of a country. The goal of promoting entrepreneurship and industrialisation is often partly placed in the hands of DFIs as they are seen as leaders in addressing these goals on behalf of governments. It is thus important that large investments made in projects by DFIs should seek to yield the maximum developmental impact in the country and society. We are also living in an era where socially responsible investing is increasingly becoming an important factor in making investment decisions; thus the environment, society and general social development are namely becoming more important factors in investment decision making.

Social cost benefit analysis is methodology or technique that has been abandoned or seldom used, in the past couple of years, by the likes of the World Bank and other multinational DFIs as a result of lack of standardised procedures and enforcement on the duty to perform social cost benefit analysis; in addition poor incentives and lack of staff skills are also reasons for the decreased use of social cost benefit analysis in project appraisal. Having said the above, there is still consensus on the benefits of performing social cost benefit analysis, especially by DFIs.

Through the review of various research and work performed in the South African context, it was very evident that very little work, if not none, has been performed on projects that have been funded by South African DFIs. There appeared to have been an abundant amount of work that has been performed on social cost benefit analysis in India. It may be an enigma as to the reasons behind the lack of work available in the South African context. The afore mentioned thus leads to the interest in applying social cost benefit analysis in the South African context for the purpose of investigating to the applicability, impact and

benefits of performing such. This may also assist in determining whether the standard project appraisal procedures performed by DFIs may be enhanced by performing social cost benefit analysis, in addition to the standard project appraisal procedures.

1.4 Research Questions and Scope

In order to obtain the maximum outputs and to reach the most informative conclusions from this research, this paper will seek to respond to the following questions:

1. Is social cost benefit analysis for project appraisals by DFIs feasible?
2. Does social cost benefit analysis sharpen the project choice decision by DFIs?
3. Does social cost benefit analysis provide useful information for better project management by DFIs?

The above mentioned research questions will seek to provide conclusions on the following objectives:

1. To establish whether social cost benefit analysis in project appraisals by DFIs is feasible using the currently available acceptable methodologies.
2. To establish whether social cost benefit analysis sharpens the project choice decisions made by DFIs.
3. To establish whether social cost benefit analysis can provide useful information for better project management by DFIs.

The above research questions will provide a view regarding the value obtained from a formal social cost benefit analysis on projects selected by DFIs and whether the analysis should play a significant role in project investment decisions. The overriding hypothesis to be concluded upon in this research is thus as follows: Does a formal social cost benefit analysis significantly impact the project investment decision of DFIs? This hypothesis will thus allow for a precise conclusion on the value added by the formal social cost benefit analysis in project appraisals by DFIs in order to ensure an optimal allocation of project investment funds. It will also conclude on whether the analysis should be incorporated in the standard project investment decisions processes by DFIs in order to ensure that the national government objectives are being fully achieved as well as the primary mandate objectives of the DFI.

This research will be limited to projects that have been funded by the IDC over a specific time frame (depending on the availability of information), which is known as a South African DFI tasked with the responsibility of industrial development in the country; more specifically the industrial development of mainly manufacturing sectors in the country, which are often seen to be the greatest contributors to job creation. This research is not limited by the scope of only including the IDC as the purpose is to conclude on project appraisal by DFIs and the IDC is more relevant in this case as its mandate covers all manufacturing sectors in the country, where most industrial development projects usually fall within. This research has the opportunity of contributing to discussions surrounding social cost benefit analysis in the South African context and providing some insight regarding social cost benefit analysis in the South African context.

Currently, a good amount of the project finance literature that is aligned with this research is conducted by multilateral development finance institutions such as the World Bank and other development organisations. Very limited work has been performed in the context of South Africa regarding this performance and achievement of social objectives of DFIs through invested projects. This research will seek to address this gap and provide some knowledge regarding the South African DFI context.

1.5 Research Assumptions

As mentioned in the prior section, this research will be limited to projects that have been funded by the IDC. The following will be assumed with regards to the projects to be included in this study:

1. The information contained in the project files housed within the IDC will be assumed to fairly present all the facts regarding the projects as well as the overall data surrounding the project. The information will thus be taken at face value based on the captured information by the IDC.
2. The projects will not be referred to their names per the IDC, thus will take on pseudonyms in order to maintain the confidentiality of the projects.
3. Prior authorisation was obtained from the IDC for the use of the project information. The authorisation specified that no confidential client information will be mentioned in the report and no information which will make it possible to identify a client will be used in the report. This was necessary as the IDC is bound by client confidentiality.

The research will be conducted based on the United Nations Industrial Development Organisation (UNIDO) Guidelines for Project Evaluation, which was also used in the Indian study. The use of these guidelines will be discussed further in the paper. UNIDO has over the years developed computer software which incorporates the methodologies outlined in the UNIDO Guidelines for Project Evaluation. The software is known as COMFAR (Computer Model for Feasibility Analysis and Reporting) III (latest version); it permits the user to simulate the short- and long-term financial and economic situation of investment projects. The software also facilitates the analysis of industrial as well as non-industrial projects, whether new investments, rehabilitations, expansions, joint venture or privatization projects⁹. Further, the main module of the programme accepts financial and economic data, produces financial and economic statements and graphical displays and calculates measures of performance; it also can be used for the analysis of investments of new projects and the expansion or rehabilitation of existing enterprises¹⁰. The software has allowed for more manageable application of the methodology outlined in the Guidelines for Project Evaluation.

As per discussions with representatives from UNIDO, the software fairly represents the methodologies outlined in the UNIDO Guidelines for Project Evaluation; it will thus be assumed that the above mentioned software includes all the methodologies outlined in the Guidelines for Project Evaluation, which will be discussed further in this paper. Further, social cost benefit analysis generally requires some assumptions and derivations about a set of parameters, namely, the social rate of discount, shadow exchange rate, shadow wage rate, shadow price of investment and redistribution premium. The assumptions discussed above will be discussed further in the methodology as well as the literature view below.

⁹ www.unido.org/comfar (November 2012)

¹⁰ www.unido.org/comfar (November 2012)

2 LITERATURE REVIEW

2.1 Introduction

The available literature has been primarily centred on measuring the performance of DFIs, cost benefit analysis on projects and surrounding the methodology within the UNIDO Guidelines for Project Evaluation and other similar methodologies. The lack of a myriad of research may be as a result of some DFIs being purely used by governments as a vehicle to address political goals, the lack of accountability regarding unsuccessful projects, the interests of DFIs not being adequately aligned with that of their respective governments and the lack of the application of a formal social cost benefit analysis in government and DFI projects. There has been some consensus in current literature on the inappropriate measures that are being used in evaluating the performance of DFIs. The traditional accounting measures such as return on assets or return on equity do not adequately assess the performance of DFIs as they disregard DFIs that seek to maximise a social objective¹¹. The literature that has analysed whether DFIs fulfil their social objectives consists mostly of cross-country analyses of aggregated data with a focus on macroeconomic variables¹². The afore mentioned thus further emphasises the importance of social cost benefit analysis in the investment decisions made by DFIs as DFIs are primarily created to address prevailing market failures and reach underserved segment.

Social view literature, particularly by Atkinson and Stiglitz (1980) stated that market failures occur because private banks maximise profit thus having either low or no interest in offering services to low-income individuals, remote communities or more generally, in financing unprofitable projects with positive social externalities. Again, the role of an interventionist such as DFIs in order to address social disparities is also emphasised here. However, there has been some difficulty in assessing the fulfilment of DFIs social objectives as a result of lack of evident to support the meeting of the social objectives hence leading some to believe that DFIs were created to pursue individual goals of politicians (Shleifer and Vishny 1994; La Porta, Lopez-de-Silanes, and Shleifer 2002).

¹¹ Manuela Francisco, Yira Mascaró, Juan Carlos Mendoza and Jacob Yaron (2008), *Measuring the Performance and Achievement of Social Objectives of Development Finance Institutions*, p3.

¹² Manuela Francisco, Yira Mascaró, Juan Carlos Mendoza and Jacob Yaron (2008), *Measuring the Performance and Achievement of Social Objectives of Development Finance Institutions*, p3.

2.2 Social cost benefit analysis today

The Independent Evaluations Group of the World Bank performed a study on the Cost-Benefit Analysis in World Bank projects¹³. This study was catalysed by the declining cost benefit analysis performed on the Bank's projects at appraisal stage and the difficulty encountered when performing a cost benefit analysis after the implementation of the project as a result of lack of the relevant and baseline data. This cost benefit analysis would include both qualitative and quantitative analysis (including social aspects). The study highlighted the importance of the analysis as it could assist in assessing the effectiveness of the development projects that it had implemented and also allows for an improved decision making process therefore maximising the effectiveness of the developmental assistance. The study concludes in saying that cost benefit analysis should be incorporated into the Bank's project appraisal process and should be performed before a project decision is made. The study further concludes that cost benefit analysis can be a powerful tool when appropriately applied and can enhance the overall results and focus of project decisions. The conclusions of this study emphasised the value obtained from performing formal social cost benefit analysis procedures as they enhance investment decisions and consequently the investment impact in society.

2.3 Social rates of discount

Another topical issue relating to social cost benefit analysis is relating to the social discount rate. The social rate of discount is defined by a number of economists (Harberger (1968), Sandmo and Dreze (1971)) as the weighted average of the market rates facing both the consumers and the producers, the weights being the interest derivatives of present consumption and private investment thus reflecting the share of resources drawn from the consumption and private production sectors for public investment. The interest in the social rate of discount stems from the wide use of net present value analysis in project evaluations. Feldstein (1964) in the Social Time Preference Discount Rate in Cost Benefit Analysis paper recognised that discount rates used in a perfect capital market would be unsuitable for evaluating public investment projects. He concluded in saying that a social time preference rate reflecting the government's judgement of the relative social utility of consumption at different points of time should be used. He also makes

¹³ Independent Evaluations Group, The World Bank Group (2010), Cost Benefit Analysis in World Bank Projects

reference to Fisher's indifference curve analysis saying that it depicts properties of the social time preference function and its relationship with the social time preference rate. Another important conclusion reached in this paper is that public investment decisions must also reflect the social opportunity cost of the funds and that is best done by using a shadow price that reflects social time preference and the productivity of funds in private investment. It is evident that investments made by DFIs need to consider the use of the social rate of discount in addition to the standard rate of discount in evaluating projects.

2.4 Shadow Prices

Shadow Prices are also used in social cost benefit analysis; are defined as the social opportunity cost, the net loss or gain, associated with having one unit less or more as per Dreze and Stern (1990). Further, the net gains and losses involved have to be assessed in terms of well-defined criterion or objective, which is referred to as social welfare. The use of shadow prices stems from the presence of distortions in the economy which may come from a multiple of sources, namely, distortionary taxes, externalities, and unemployment, as per Marchard and Pestieau (1984). Market prices for present as well as future periods do not reflect social values, shadow prices are thus used to evaluate the inputs and outputs involved in any government project (including DFIs). Marchard and Pestieau (1984) concluded in saying the following: with several goods and distortions, shadow prices, different from market prices, ought to be used to evaluate the costs and the benefits of any public good. It is very clear that for social cost benefit analysis, market prices would have to be adjusted in order to incorporate social attributes. Dreze and Stern (1990) further highlighted the relevance of shadow prices in social cost benefit analysis by emphasising that revenues and costs at market prices give distorted measures of social gains and losses and appraisals should use social opportunity costs or shadow prices. Dreze and Stern (1990) further highlighted that in order for market prices to reflect social value of commodities, the distribution of income should also be optimum according to the ethical judgements underlying the shadow price system. The afore mentioned is thus essential for the maximum social impact on the evaluated projects.

2.5 Social cost benefit analysis in DFIs and methodologies

Within the realm of social cost benefit analysis, the two prominent methodologies used are the UNIDO Guidelines for Project Evaluation and the Little-Mirrlees Method of Project Appraisal. It is well accepted that these methodologies are essentially similar and can be used interchangeably. Singh and Anand (1998) recognised a need for a standard for social cost benefit analysis, in that they strongly believed that DFIs must examine social cost benefit implications of their investment decisions. The paper recognised that DFIs do not have any formal system of social cost benefit analysis, and only the extent of employment generation and development are estimated; the location of the project is emphasised as well as import substitution and export promotion. It was found that discounted cash flow techniques were found to being the most prominently used by the DFIs examined and the social cost benefit analysis was carried out on the basis of a partial application of the Little and Mirrlees methodology for projects that were over a certain amount of investment. They also concluded that there was a widespread feeling that the information required by the UNIDO Guidelines and the Little and Mirrlees methodology are so much that these cannot be applied in developing economies; however the authors of paper did not agree with this. The paper recommended that an operational methodology along with suitable computer programmes can be formulated for either of the two methodologies, which can be used to appraise projects of DFIs. The paper further concluded that the social cost benefit analysis can be performed in several stages as follows:

1. Benefits and costs due to the project can be calculated at market prices to estimate the net aggregate consumption benefit. This assumes that the market prices reflect the social opportunity cost.
2. The adjustment of the market prices of specific resources; this can be performed wherever the market prices do not reflect the real contribution of the resources to the net aggregate consumption objective. The specific resources are namely foreign exchange, skilled labour and unskilled labour and there are various adjustment ranges for each resource. The foreign exchange component of costs and benefits can be adjusted upwards by 20%, 25% and 30%. The cost of unskilled labour can be adjusted downwards by 0.5 and 1.0, and the cost of skilled labour can be adjusted upwards by 0.5 and 1.0.
3. In order to evaluate the indirect future benefits and costs of the project, the net aggregate consumption benefits and costs of the project, the net aggregate consumption benefits can be divided into two components: consumption and

investment. The investment component can be adjusted for shadow prices of investment. The shadow price of investment is depended upon several parameters which can be estimated in a sensitivity analytical manner.

In terms of the above stages, the project can thus be evaluated in terms of the aggregate consumption benefits criterion; this method takes into account the net present value of the investment calculated in terms of the social rate of discount, shadow prices of various resource flows such as foreign exchange, skilled and unskilled labour and investment as suggested by the UNIDO Guidelines. The values for the social rate of discount may be tested in a sensitivity analysis. The paper also mentions that DFI objective of developing backward areas can be addressed by evaluating a project in terms of the contribution of redistribution benefits to the underdeveloped area. A final comment of the paper highlights that social cost benefit analysis requires assumptions and derivations about a set of parameters namely the social rate of discount, shadow exchange rate, shadow wage rate, shadow price of investment and redistribution premium. The final comment also continues to mention that the accountants and economists must develop standards for these parameters so that there could be uniformity regarding this important approach for decision making. From the above, it is clear that social benefit analysis can be feasible and it is a useful tool that can enhance decision making by especially DFIs.

2.6 Social cost benefit analysis study in India

This research paper was motivated from a study that was conducted in India by Singh and Anand in 1993 (Social Cost Benefit Analysis of Projects of a State Industrial Development Corporation (“SIDC”)). The paper sought to conclude on what the decision of the SIDC would have been regarding projects already selected if social cost benefit analysis was formally performed. The methodology used in this paper was based on the UNIDO Guidelines for Project Evaluation and accepted that the UNIDO and Little and Mirrlees methodologies are essentially similar. The paper assessed 19 projects of an SIDC in India. The paper was inspired from the fact that the project appraisal system of SIDCs does not involve any formal social cost benefit analysis except for a few statements made about employment, location and import substitution. The selected projects were classified into 3 different group based on their net aggregate consumption benefit (net social value). Group I projects consisted of projects whose minimum net

social values are positive, Group II projects were projects with a positive maximum net social values and Group III projects were projects with negative maximum net social values. The conclusions reached for the project groups are as follows:

1. It was found the four out of four projects of Group III could not have been selected on social desirability criterion if a formal social cost benefit analysis was conducted.
2. It was found that the ten out of ten projects in Group I would have been accepted if a formal social cost benefit analysis was conducted.
3. It was found that the four out of five projects in Group II would have been accepted if a formal social cost benefit analysis was conducted.

The study concluded in stating that it corroborates the hypothesis that social cost benefit analysis under a sensitivity analytic framework for project appraisal by SIDCs is feasible and that social cost benefit analysis sharpens the project choice decision and it provides useful information for better project management.

2.7 Conclusion

The above mentioned Indian study provides a foundation for an in-depth look at a case for a study within a different environment where social cost benefit analysis will be performed on funded projects by a South African DFI. The studies discussed above also touched on the proposed research questions and will assist in the in-depth analysis of the proposed research questions. It is also clearly evident that a gap does indeed exist in the performance of social cost benefit analysis by DFIs in South Africa; particularly as social cost benefit analysis specifically speaks to their objectives. Below is a tabular presentation of the research questions and their link to the literature review discussed in this chapter:

<u>Research Questions</u>	<u>Literature Review Section Reference</u>
Is social cost benefit analysis for project appraisals by DFIs feasible?	2.2, 2.5 and 2.6
Does social cost benefit analysis sharpen the project choice decision by DFIs?	2.2, 2.5 and 2.6
Does social cost benefit analysis provide useful information for better project management by DFIs?	2.2, 2.5 and 2.6

3 RESEARCH METHODOLOGY

3.1 Research Approach and Strategy

This research paper is founded upon the UNIDO Guidelines for Project Evaluation, which provides a methodology for social cost benefit analysis, which has been widely accepted as an appropriate standard and the base study upon which this paper is based has also used these guidelines and deemed them acceptable owing to its economic foundations. The UNIDO Guidelines are founded upon economic and mathematical concepts and principles. The study performed on the SIDC in India was successfully performed with the use of the UNIDO Guidelines. The UNIDO Guidelines emphasise that social cost benefit analysis is an approach rather than a technique and it provides a national framework for project choice using national objectives and values. The UNIDO Guidelines also mention that projects are judged in terms of their precise impact in an economy and this impact is evaluated by using parameters reflecting national goals, social objectives and global facts. The afore mentioned is particularly applicable for government funded projects and well as DFI funded projects. Another possible methodology that endeavours to accomplish the goals that are sought to be achieved from this study is the Little and Mirrlees methodology and the Organisation for Economic Co-Operation and Development (OECD) Manual for Evaluation of Industrial Projects. The Little and Mirrlees methodology does not significantly differ from the UNIDO Guidelines as previously mentioned and the OECD guidelines are an extension of the UNIDO Guidelines and they are more specific to Industrial projects.

The UNIDO Guidelines specifically make mention to the more important objectives and the corresponding measure of the benefits. This will enable for the calculation of the benefits in this research paper. The research strategy to be followed in this paper is thus primarily quantitative as the underlying methodology is fairly mathematical. For the purpose of measuring direct benefits from a project, it is useful to discuss the following measurements of direct benefits:

1. Aggregate consumption

The raising of the standard of living is a fundamental goal of national planning and this naturally includes project selection. Aggregate consumption is thus a measure for

standard of living and a rough measure of the current welfare. The raising of the standard living is clearly an essential objective for project choice. In order to determine the aggregate consumption, the following formula will be used to calculate the aggregate measure of consumption, presented by C:

$C = \sum_{i=1}^n p_i x_i$, where p_1, p_2, \dots, p_n are the respective prices of goods 1, 2, ..., n and x_1, x_2, \dots, x_n are the corresponding amounts of consumption of each good. This procedure of aggregation allows for the relative weight in each commodity to reflect the prices that the consumers pay for it. When the aggregate consumption over time is considered, discounting would have to be involved at an appropriate social rate of discount. If a_0 is the value of consumption today (year 0), and a_1 is that for the next year (year 1), then the a_0 units of consumption next year is equivalent to a_1 today. The next year's consumption levels thus have to be discounted at the following rate:

$$i_1 = \frac{a_0 - a_1}{a_1}$$

The above mentioned formula represents the proportionate decline in the value of a marginal unit of consumption between year 0 and year 1. The periods following year 1 are calculated in the same manner. The general formula for above mentioned formula can be expressed as follows:

$$i_t = \frac{a_{t-1} - a_t}{a_t}$$

Where t represents the respective year, and where a is the unit of aggregate consumption; this equation reflects a state where the consumption level in year t is brought in line with that of year $t-1$. From the above, one can go ahead and determine social rate of discount. The social rate of discount can be determined by applying the following: if Q_t is the contribution to aggregate consumption from a hypothetical project in year t , then we can write down the overall contribution by thus project to aggregate consumption as the weighted sum below.

$\sum_t a_t Q_t$ From the rate formula depicted above for it, the social rate of discount expression is identical to the following weighted sum:

$$\sum_t \frac{Q_t}{(1+i_1) \dots (1+i_t)}, \text{ which can be expressed as } \sum_t \frac{Q_t}{(1+i)^t}$$

2. Income distribution

Income distribution is important as the relative prices used in the aggregate consumption formula are dependent on income distribution as prices are influenced by demand and demand is influenced by income distribution. In order to account for income distribution, an additional weight will be attached to income accruing to or consumption enjoyed by the poorest group. This simply means that the poor region may be separated out and any consumption generated in that region may be given an additional weight. The measure to be achieved is thus the measure of redistribution benefit, which is the amount of consumption that is generated in the poorest region or is enjoyed by the poorest class. When income redistribution is combined with aggregate consumption, a precise weight would have to be chosen for attaching an additional value to the consumption of the poor.

3. Growth rates of national income

The growth rates of national income (as defined earlier) are an indicator of future consumption possibilities. It may be seen as redundant to take the growth rate as separate objective when the entire future consumption stream has already been considered in the measure of aggregate consumption benefit.

4. Employment level

The employment level can be viewed as an expansion of employment or a reduction of unemployment. The unemployment consideration is considered with the measure of aggregate consumption as the loss of future output and consumption will be reflected in the aggregate consumption, if it is appropriately estimated. The above mentioned principal may also be applied to employment.

5. Self-reliance

This is particularly relevant to developing countries as they are severely dependent on the richer countries for their economic development as a result of shortages in savings or foreign exchange. A simple measure of this self-reliance is the deficit in the balance of payments and a simpler measure is the measure of trade deficit, which is the gap between imports and exports.

The UNIDO Guidelines further systematically describes the steps to be taken in the estimation and evaluation of the direct benefits of aggregate consumption. The steps to be taken are listed below.

- a) Ascertain the net output of the project¹⁴ and split it up by adding to supply and saving resources.
- b) Estimate the amount that the consumers will actually pay for the additional supply of goods.
- c) For an additional supply of consumer goods, check whether the consumers are free to buy as much as they like; if there are restrictions (e.g. rationing), try to estimate what the consumers will be willing to pay for an additional supply, which will in general exceed the market price.’
- d) For an additional supply of consumer goods, check whether any consumer has buyers’ monopoly power, and if so, correct the price of the commodity upwards to reflect the difference between the consumers’ willingness to pay and what they actually pay. (This is unlikely to be a very important consideration.)
- e) For an additional supply of consumer goods, check whether the size of it is so large compared with other sources of supply that the prices would be perceptibly lowered by the additional supply. If so, try to estimate the consumers’ willingness to pay, which would exceed what they actually have to pay.
- f) For producer goods, complete (c), (d), and (e). The same exercises must be done and supplemented by considerations of monopoly power for the subsequent stages of production, for example, for steel consider the question of the rationing of steel-using products, response of the prices of steel-using products to additional supply, existence of monopoly in later stages and so on. This would be extended to as many stages as practical.
- g) For goods that substitute for imports or add to exports, estimate the impact of foreign exchange availability by making explicit assumptions about foreign exchange markets etc. and also about policies of the respective government. Use the shadow prices of

¹⁴ The net output of a project refers to goods and services made available to the economy that would have not been available in the absence of the project thus if the goods and services produced by the project add to the supply in the economy then they may be regarded as the net output, however, if goods and services produced by the project do not add to the supply available in the economy but are a substitute for an alternative source of supply, the net output of the project would be reflected in the resources released from the alternative source of supply such as net foreign exchange saved by the project.

foreign exchange supplied by central planners¹⁵, to convert foreign exchange benefits into units of aggregate consumption in domestic currency.

- h) In any estimation where the future benefits of consumption are directly involved, convert them into present value by using the social rates of discount supplied by the central planners.
- i) For goods that are not sold in the market but are supplied free instead, try to estimate, if possible, what the purchases would have been ready to pay for these facilities if they were to be purchased. If this is impossible, simply use some estimation of the relative importance of the facilities in terms of general aggregate consumption. This would involve judgements and while they must be made, it may be helpful for rational discussion on project choice to state these explicitly.
- j) For each project, add up all these direct benefits of aggregate consumption to arrive at the total. The total figure is in units of current aggregate consumption; the benefits are homogeneous thanks to the use of appropriate shadow prices (including shadow rates of discount and the shadow prices of foreign exchange).

Similarly, the UNIDO Guidelines describe the systematic steps to be taken in the estimation of direct costs related to the aggregate consumption benefits. The steps to be taken are listed below.

- a) Ascertain the net input of the project¹⁶ and split it up into reducing the total supply of inputs and absorbing the resources to keep the input supply constant through expanded production.
- b) Check the market cost of the inputs.
- c) In the case of reduction of total supply, estimate the willingness to pay for these inputs through several corrections. The first correction is related to the value of rationed inputs at some stage or other.
- d) The second correction is concerned with the monopoly power in buying or selling at the immediate stage or at a later stage.
- e) The third correction is concerned with the size of the input-supply reduction and its impact on price. If there is a real impact on price, the demand curves would have to be

¹⁵ i.e. Government

¹⁶ The net input of a project refers to the goods and services withdrawn from the rest of the economy that would not have been withdrawn in the absence of the project.

estimated to correct the willingness to pay. This, too, should be carried to later stages in production involving the products made by these inputs.

- f) If the absorption of producer goods in this project is to be compensated by an expansion of supply of these resources from other sources, calculate the actual costs involved in that expansion.
- g) If some resources are imported, or are obtained at the expense of potential exports, calculate the sacrifice of foreign exchange involved, and correct by the shadow price of foreign exchange.
- h) Direct future costs are discounted at the appropriate social rates of discount.
- i) Correction of labour and land must be in terms of reduction of supply as they cannot be met by expansion of production. Appropriate corrections will include all considerations of willingness to pay discussed in (c), (d) and (e).
- j) For each project add up all these direct costs related to the aggregate consumption objective. Note that indirect costs, for example, future benefits sacrificed through absorbing some investment in the project partly or wholly at the expense of other investment, are not yet corrected.

The success of this research is closely aligned with availability of data from IDC and the quality thereof. The data is required to entail the relevant inputs that will be used in the social cost benefit analysis evaluation. The projects to be evaluated will consist of projects across various sectors, areas, and industrial activities.

UNIDO has over the years developed software that incorporates the methodology outlines in the UNIDO Guidelines. This software is known as COMFAR (Computer Model for Feasibility Analysis and Reporting) and it is currently widely used by many organisations for the purpose of project evaluation. The software application is developed by UNIDO for the analysis and appraisal of investment projects of any kind. The social cost benefit analysis is also incorporated in the software, in terms of the guidelines and it is referred to as Economic Analysis in the software. This software is useful in assisting with the consistent application of the UNIDO Guidelines as well as consistent evaluation of projects and their social impact. The software that was used in this research was obtained from UNIDO and the latest version of the software was used (COMFAR III *Expert*).

Furthermore COMFAR III *Expert* is a valuable aid in the analysis of investment projects. The main module of the program accepts financial and economic data, produces financial and economic statements and graphical displays and calculates measures of performance. Cost benefit and value-added methods of economic analysis developed by UNIDO are included in the program, with allowance made for the methods used by major international development institutions.¹⁷

For the purpose of the social cost benefit analysis calculations, it is important to note that following assumptions that have been incorporated in deriving the results:

- The social cost benefit calculations include the use of a social discount rate¹⁸ (SDR). The South African average SDR in was 11,7% for the period 1980 to 2008¹⁹. As a result of the lack of any further information relating to the average South African SDR, the 11.7% will be conservatively used in the social cost benefit analysis calculations.
- In social cost benefit analysis, the standard conversion factor for shadow pricing is 0.8333 as per the UNIDO Guidelines. The conversion factor for foreign currency is the inverse of the above mentioned, which is 1.2, as per the UNIDO Guidelines.
- For the purpose of the social cost benefit analysis calculations, the Indirect Effects will not be estimated in order to eliminate any bias amongst the projects.
- The financial and other project information is inputted from the project information obtained from the IDC.
- The market prices, where applicable, are substituted with shadow prices (for example labour costs) in order to reflect economic prices.
- The import and export effect (distinguishing between traded, tradable and non-tradable outputs and inputs) of all outputs and inputs for each project are determined in order to determine the foreign exchange effect. Traded and tradable items can be valued in terms of foreign exchange.

¹⁷

http://www.unido.org/fileadmin/user_media/Services/Investment_and_Technology_Promotion/COMFAR/brochure_english.pdf (December 2012)

¹⁸ For the purpose of this paper, the social rate of discount and the economic rate of discount are used interchangeably and are considered the same.

¹⁹ <http://www.statssa.gov.za/publications/D04052/D040522008.pdf> (December 2012)

3.2 Data Collection, Frequency and Choice of Data

The data required for this research has been obtained from IDC records; the data collection method will be in the form of available data maintained by the IDC. Prior authorisation was obtained from the IDC for the purpose of this research thus providing access to the IDC project data. The data required to contains information regarding the costs of the projects as well as means of financing the project, including all aspects regarding the projects.

The data collection method did not include the traditional statistical data collection methods. As the data required for this research is held by a single source, which is the IDC, the data was merely requested from the respective information technology practitioners that are responsible for maintaining the data. During the data collection procedures it was noted that the electronic data available within the IDC was available in several formats for specific periods. The IDC maintains all information regarding the basic assessment, due diligence performed and submission report for approval electronically for all investments made. The data containing all investments made by the IDC (report extracted from the company system) to date contained information dating back more than 20 years from the year 2012; however, this information was limiting as it did not contain a field that distinguished project investments from non-project investments. The use of the data would thus be limiting as the scope of this research is to look at projects funded by the IDC (excluding namely general corporate finance and small and medium enterprise (SME) finance). Another set of data was obtained (report extracted from the company system), which contained a field that clearly indicated whether the investment was a project or not. This set of data was however over a different and shorter time period; the data only dated back to August 2009. The purpose of the study is to evaluate the impact of social cost benefit analysis on IDC funded projects; the time period relating to the population from which the sample will be drawn should not be a contentious issue as the research is merely looking at funded projects by the IDC and not over any specific period. The data to be used will thus include funded projects by the IDC from 1 August 2009 to 31 August 2012 (over a 3 year time horizon).

As discussed above, the choice and frequency of the data was dictated by the available data from the IDC. The 3 year time horizon will not impact the objectives of the research as no

formal social cost benefit analysis procedures have existed within the IDC. The number of projects included in the 3 year time horizon is 89 and this will be the population from which the sample will be drawn.

3.3 Sampling

The sampling method to be applied in this research is simple random sampling. The reason behind the selected sampling method is to ensure that no bias is placed on any project, during the selection and that each project contained in the population is equally likely to be chosen. A number (1 to 89) was assigned to each project contained in the population and the projects were selected using the Random Number Generator found in Microsoft Excel based on the calculated sample size.

The number of projects to be looked at corresponded with the number of projects that were looked at in the India study. This number is thus 19 projects in total. Unfortunately as a result of the unavailability of information or insufficient good quality legible information, the sample that was included in the testing for the South African DFI context of the study was 17 projects. This amount is still sufficient enough for the conclusion on the impact of social cost benefit analysis in project evaluation as South Africa is a considerably smaller country to India in terms of total population and gross domestic product.

The projects contained within the data obtained include the following sectors that will be applied in this research:

- Food, Beverage and Agro Industries,
- Chemical and Allied Industries,
- Forestry and wood and paper industries,
- Metals, Transport and Machinery industries,
- Healthcare industries,
- Mining and Minerals Beneficiation industries,
- Information and Communication Technology industries, and
- Textiles and Clothing industries

It is important to note that the projects for the above mentioned sectors will be based on the availability of projects and data for the respective sectors. The sampling method will also randomly select any projects from any of the above mentioned sectors.

3.4 Data Analysis Methods

The data analysis will entail the evaluation of the results obtained from the outputs derived from the testing performed by the COMFAR software. As previously mentioned, the COMFAR software incorporates the UNIDO Guidelines, the calculations and results generated for social cost benefit analysis will thus be per the UNIDO Guidelines. The UNIDO Guidelines were selected for the purpose of evaluating the social cost benefit analysis of selected projects from the IDC as they are founded upon economic and mathematical concepts and principles. In addition, the study performed in India was successfully performed with the application of the UNIDO Guidelines. The key outputs that will be analysed and discussed from the social cost benefit analysis are as follows:

- Value-Added Analysis,
- Net Foreign Exchange Effect Analysis,
- Employment Effects, and
- Economic Appraisal.

3.5 Research Reliability and Validity

The project data used in the research can be relied upon as the data was extracted directly from the IDC upon obtaining the relevant authorisation for the access to the relevant documentation. The data was directly inputted into the software for the purpose of performing the social cost benefit analysis. The project data was obtained from submission reports that were submitted to respective committee for the approval of the projects. The information contained in the submission reports can thus be deemed reliable and valid. The ability to extract information from the submission reports was very important as that directly affects the reliability and validity of the research; for this reason, as discussed earlier, only 17 projects were randomly selected as a result of inadequate legible submission reports or unavailable submission reports.

3.6 Limitations

The noted limitations regarding the data collection was regarding the available time horizon for project data from the IDC. As discussed in Section 3.2, this limitation regarding the availability of project data further than 3 years will not limit the research in any manner as the focus of the research is on funded projects by the IDC during any period and not during a particular period. In addition, another noted limitation includes the unavailability of information or insufficient good quality readable information, which was noted in Section 3.3 above. This resulted in the sample of projects being reduced to 17 projects for the South African DFI case. The above mentioned limitation, however, does not infringe on the results of this research paper for reasons mentioned in Section 3.3.

4 RESEARCH FINDINGS, ANALYSIS AND DISCUSSION

4.1 Research Findings

The 17 projects that were selected for the purpose of the research study were inputted into the COMFAR software where calculations were generated for each project based on the inputs included as per the documentation obtained from the IDC. The results from the testing that was performed for each project by the software are detailed in Appendix A. The assumptions detailed in Section 3.1 have been incorporated in the social cost benefit analysis of each project. The outputs derived from the testing performing will be discussed below:

Value-Added Analysis

In the value added schedule, all present value calculations are performed at the economic rate of discount, which has been assumed to being 11.7% as detailed in Section 3.1 and discounted to the end of the first year as default or beginning of the project. When the production of inputs is directly attributable to the project, value-added may be contributed to the economy. The important outputs detailed in the value added analysis are as follows:

- Gross Domestic Value Added – This represents the value of output (gross sales revenue) less material input (generally production overhead, including raw materials).
- Net Domestic Value Added – This represents the gross domestic value added from above less investment (fixed investment and pre-production expenditures net of interest) plus an increase in total inventory.
- Net National Value Added – This represents net domestic value added from above less repatriated payments (labour costs plus dividends plus interest payable plus corporate taxes).

Below is a summary of the results obtained from the value added analysis performed on the 17 projects.

Table 4.1.1 – Value Added Analysis Summary

	NET PRESENT VALUE (positive or negative)		
Projects	Gross Domestic Value Added	Net Domestic Value Added	Net National Value Added
Project 1	Positive	Positive	Positive
Project 2	Positive	Positive	Positive

	NET PRESENT VALUE (positive or negative)		
Projects	Gross Domestic Value Added	Net Domestic Value Added	Net National Value Added
Project 3	Positive	Positive	Positive
Project 4	Positive	Positive	Positive
Project 5	Positive	Positive	Positive
Project 6	Positive	Positive	Positive
Project 7	Positive	Positive	Positive
Project 8	Positive	Positive	Positive
Project 9	Positive	Positive	Positive
Project 10	Positive	Positive	Positive
Project 11	Positive	Positive	Positive
Project 12	Positive	Positive	Positive
Project 13	Positive	Positive	Positive
Project 14	Positive	Positive	Positive
Project 15	Positive	Positive	Positive
Project 16	Positive	Positive	Positive
Project 17	Positive	Positive	Positive

Net Foreign Exchange Effect

The net foreign exchange effect traces all the inflows and outflows of foreign exchange for all items defined as foreign in the projects in order to determine the effect on the national balance of payments. The net present value for each value determined is discounted at the assumed economic rate of discount. The important outputs detailed in the net foreign exchange effect schedules detailed in **Appendix A** are as follows:

- Total Foreign Exchange Inflow – This represents the sum of equity shares (all equity capital inflows), loans, subsidies and/or grants, export of products (gross foreign sales revenue) and other income.
- Total Foreign Exchange Outflow – This represents the sum of investment (increase in foreign currency fixed assets), material input (all production overheads in foreign currency, including raw materials), debt service (repayment and interest of foreign currency loans), wages (foreign labour overheads), equity capital refund (refunded

equity capital in foreign currency), profit/dividend transferred and other foreign cash outflows.

- Net Foreign Exchange Flow – This represents total foreign exchange inflow less total foreign exchange outflow.
- Net Foreign Indirect Effects – This represents the sum of indirect foreign exchange inflows (import substitution thus the value of importable inputs) and exportable inputs (export diversion thus the value of exportable inputs).
- Net Foreign Exchange Effects – This represents the sum of net foreign exchange flow as explained above and net foreign exchange indirect effects.

Below is a summary of the results obtained from the net foreign exchange effect analysis performed on the 17 projects.

Table 4.1.2 – Net Foreign Exchange Effect Summary

Projects	NET PRESENT VALUE (positive or negative)				
	Total Foreign Exchange Inflow	Total Foreign Exchange Outflow	Net Foreign Exchange Flow	Net Foreign Indirect Effects	Net Foreign Exchange Effects
Project 1	N/A	N/A	N/A	Positive	Positive
Project 2	N/A	N/A	N/A	Negative	Negative
Project 3	N/A	N/A	N/A	Negative	Negative
Project 4	N/A	N/A	N/A	Negative	Negative
Project 5	N/A	N/A	N/A	Positive	Positive
Project 6	N/A	N/A	N/A	Negative	Negative
Project 7	N/A	N/A	N/A	Negative	Negative
Project 8	N/A	N/A	N/A	Positive	Positive
Project 9	N/A	N/A	N/A	Positive	Positive
Project 10	N/A	N/A	N/A	Positive	Positive
Project 11	N/A	N/A	N/A	Negative	Negative
Project 12	N/A	N/A	N/A	Positive	Positive
Project 13	N/A	N/A	N/A	Positive	Positive
Project 14	N/A	N/A	N/A	Positive	Positive

	NET PRESENT VALUE (positive or negative)				
Projects	Total Foreign Exchange Inflow	Total Foreign Exchange Outflow	Net Foreign Exchange Flow	Net Foreign Indirect Effects	Net Foreign Exchange Effects
Project 15	N/A	N/A	N/A	Negative	Negative
Project 16	N/A	N/A	N/A	Positive	Positive
Project 17	N/A	N/A	N/A	Positive	Positive

Employment Effects

The employment effects analysis provides indicators for employment creation for the project. This information supports the analysis regarding employment creation criteria for project evaluation for DFIs. The important outputs detailed in the employment effects schedules detailed in **Appendix A** are as follows:

- Direct Employment within the project – This represents the total employment for the project.
- Indirect Employment – This represents the sum of input supplying project (suppliers upstream) and output using projects (users downstream).
- Total Employment – This represents the sum of direct employment within the project and indirect employment created.

Below is a summary of the results obtained from the employment effects analysis performed on the 17 projects.

Table 4.1.3 – Employment effects Summary

Projects	Direct Employment	Indirect Employment	Total Employment
Project 1	200	4 280	4 480
Project 2	61	31	93
Project 3	450	30	480
Project 4	380	0	380
Project 5	100	0	100

Projects	Direct Employment	Indirect Employment	Total Employment
Project 6	129	0	129
Project 7	100	0	100
Project 8	566	0	566
Project 9	535	0	535
Project 10	27	0	27
Project 11	727	0	727
Project 12	4 000	0	4 000
Project 13	110	0	110
Project 14	34	0	34
Project 15	18	0	18
Project 16	75	0	75
Project 17	535	0	535

Economic appraisal (social cost benefit analysis)

The economic costs and benefits attributable to a project over the planning horizon of the project are determined in this analysis. A discounted cash flow is produced, which is based upon production and use of real goods and services. The net present value is determined using the assumed economic rate of discount. The important outputs detailed in the economic appraisal schedules detailed in **Appendix A** are as follows:

- Cash Inflow – This represents the sum of inflows from operations (sales revenues, interest on short term deposits, other income and indirect effects).
- Cash Outflow – This represents the sum of increase in fixed assets, production expenditure, increase in net working capital, marketing overhead costs, operating overheads, foreign debt service, corporate tax paid, and indirect effects.
- Net Cash Flow – This represents cash inflow less cash outflow.
- Internal Rate of Return – This represents the discount rate for which the project net present value is equal to zero.
- Financial Value – This represents the present value at the economic rate of discount.
- Adjustment Factor – This represents the adjusted market value (for shadow pricing) divided by the financial value.

- Adjusted Market Value – This represents the present value at the economic rate of discount of the adjusted market values.
- Foreign Currency Exposure – This represents the weighted average foreign currency exposure of all traded or tradable items.
- Foreign Currency Adjustment – This represents the net present value at the economic rate of discount of the foreign exchange adjustment.
- Economic Value 1 – This represents the present value at the economic rate of discount of the economic values (adjusted market value plus foreign exchange adjustment).
- Indirect Effects – This represents the present value of the indirect effects at the economic rate of discount.
- Economic Value 2 – This represents the present value at the economic rate of discount of the sum of adjusted market value, foreign exchange adjustment and indirect effects.
- Benefit cost ratio – This represents the amount the economic/social benefits exceed the economic/social costs.

Below is a summary of the results obtained from the economic appraisal analysis performed on the 17 projects.

Table 4.1.4 – Economic Appraisal Summary

Projects	Economic Value 1 (NPV)	Economic Value 2 (NPV)	EV Benefit Cost Ratio (Greater than 1)
Project 1	Negative	Negative	Yes
Project 2	Positive	Positive	Yes
Project 3	Positive	Positive	Yes
Project 4	Positive	Positive	Yes
Project 5	Positive	Positive	Yes
Project 6	Positive	Positive	Yes
Project 7	Positive	Positive	Yes
Project 8	Positive	Positive	Yes
Project 9	Positive	Positive	Yes
Project 10	Positive	Positive	Yes
Project 11	Negative	Negative	No
Project 12	Positive	Positive	Yes

Projects	Economic Value 1 (NPV)	Economic Value 2 (NPV)	EV Benefit Cost Ratio (Greater than 1)
Project 13	Positive	Positive	Yes
Project 14	Positive	Positive	Yes
Project 15	Positive	Positive	Yes
Project 16	Positive	Positive	Yes
Project 17	Positive	Positive	Yes

4.2 Research Analysis and Discussion

The research findings detailed above and in **Appendix A** provide useful information regarding the analysis and the discussion of the projects included in the analysis as well as responding to the research questions outlined in Section 1.4. The results from the analysis will be discussed below under sections covered above in Section 4.2.

Value-Added Analysis

The results reflect that all 17 projects achieved positive gross domestic value added, net domestic value added and net national value added. This implies that should this analysis be used in project evaluation, all 17 projects would have been deemed to be value adding to the stakeholders affected (government (indirectly the DFI and the South African economy), labour and shareholders).

Net Foreign Exchange Effect Analysis

As mentioned above the net foreign exchange effect traces all the inflows and outflows of foreign exchange for all items defined as foreign in the projects in order to determine the effect on the national balance of payments. The results depicted in Section 4.2 above reflect that 7 out of the 17 projects reflect negative net foreign exchange effects. This implies that the 7 projects that obtained negative net foreign exchange effects negatively contribute to the national balance of payments of South Africa. This provides useful information regarding the import substitution and export diversion as these are quantified and as well as the effect thereof. This information would assist in possibly realigning certain aspects of the projects in order to minimise the effect on the national balance of

payments. This would thus contribute to the improvement in the management of the project as well as sharpen the project choice decision as aspects that are not formally evaluated are included in this analysis.

Employment Effects Analysis

This analysis outlines the direct and indirect employment creation for each project. All 17 projects will be or have created jobs. The results from this analysis are not surprising as employment creation is a common factor that is considered in project evaluation by DFIs, including the IDC. All 17 projects would have been selected based on the employment creation criteria solely.

Social Cost Benefit Analysis

The analysis outlines the economic value associated with each project as well as the benefit cost ratio. The results from the analysis indicate that 2 of the 17 projects would be rejected as they have obtained negative economic values, calculated at the social rate of discount. The financial values are thus not adequate to justify an investment in the 2 projects mentioned above when social cost benefit analysis is taken into account.

It is evident that social cost benefit analysis is a feasible analysis that can be performed by DFIs, more especially with the existence of COMFAR software, which would eliminate any inappropriate application of the UNIDO Guidelines and also assist in the consistency in the application of the methodology. This analysis would have to be incorporated in the standard project evaluation procedures in order for any value to be obtained from the analysis. It is noted in the net foreign exchange effects analysis that information from the results may assist in reshaping certain aspects of the projects in order for the country to enjoy maximum benefit from the DFI project. The information obtained from the analyses performed would also have an impact in the management of the projects to be invested in as certain aspects that were not previously evaluated would be included and they would require monitoring as well as management in order to ensure that the desired outcomes are reached.

5 RESEARCH CONCLUSIONS

The objectives to be achieved by this study are as follows (as per Section 1.4):

1. To establish whether social cost benefit analysis in project appraisals by DFIs is feasible using the currently available acceptable methodologies.
2. To establish whether social cost benefit analysis sharpens the project choice decisions made by DFIs.
3. To establish whether social cost benefit analysis can provide useful information for better project management by DFIs.

These objectives were derived from the following research questions, as per Section 1.4:

1. Is social cost benefit analysis for project appraisals by DFIs feasible?
2. Does social cost benefit analysis sharpen the project choice decision by DFIs?
3. Does social cost benefit analysis provide useful information for better project management by DFIs?

The research performed produced a result where 2 of the 17 projects that were included in the analysis would not have been selected had a formal social cost benefit analysis was performed by the IDC. Under the net foreign exchange effect analysis, 7 of the 17 projects depicted negative net foreign exchange effects; this information would have allowed for the project evaluator to relook at certain aspects of the project being evaluated in order to improve the impact of the project being evaluated. For this reason, one can conclude that social cost benefit analysis has the ability to provide useful information for better project management.

The results and output documentation obtained from the analysis provides evidence that the performance of social cost benefit analysis is no longer a skill demanding analysis. The analysis can be performed using software (COMFAR) developed by the methodology developers (UNIDO). This ensures that the analysis is consistently applied and that the methodology is accurately applied in order to yield valid and accurate results for use by DFIs.

From the research analysis and discussion, one can conclude that there are some merits to the performance of a social cost benefit analysis. In summary, it can be concluded that if social cost benefit analysis was performed by the IDC, many of the projects would have been selected. However, some decisions regarding import substitution and export diversion may

have been relooked, with the assistance of social cost benefit analysis. Social cost benefit analysis can be viewed as an analysis that will complement the standard project evaluation procedures that are performed by DFIs, including the IDC.

With reference to the research questions and objectives, one can thus conclude as follows:

1. Social cost benefit analysis for project appraisals by DFIs is feasible.
2. Social cost benefit analysis has the ability to sharpen the project choice decision by DFIs, especially considering the vast amounts of monies that are usually invested in projects by DFIs.
3. Social cost benefit analysis has the ability to provide useful information for better project management by DFIs.

6 RECOMMENDATIONS FOR FUTURE RESEARCH

This research is based on the UNIDO Guidelines as they are deemed to being similar to other available guidelines. It may be of interest to some to perform a study where all available methodologies are compared in terms of achieving the objectives outlined in this research paper. There are currently many DFIs globally that have adopted the COMFAR software for use in project evaluation. It may be useful to perform some qualitative study on the usefulness of the evaluations that have been performed by these DFIs and determine is any value has been obtained from performing social cost benefit analysis as part of project evaluation.

Possible limitations for future research, which may be seen as pervasive for any form of project evaluation, includes the significant aspect of project dynamics where cost estimates change over time as a result of delays in implementation and changes in the project profile. Further, another difficulty maybe be the availability of long term forecasts and there is often an absence of clear long term policy and strategy for the development of the sector in which the project may belong as well as general national planning.

An opportunity may also exist for accountants and economists to develop standards for the parameters used in social cost benefit analysis in order to ensure uniformity regarding the approach for project decision making.

REFERENCES

1. Manuela Francisco, Yira Mascaro, Juan Carlos Mendoza and Jacob Yaron (2008), Measuring the Performance and Achievement of Social Objectives of Development Finance Institutions.
2. Satya Prakash Singh and Manoj Anand (1994), The Management Accountancy, Social cost benefit analysis: applications and needs for standard.
3. Satya Prakash Singh and Manoj Anand, Prajnan Vol. 22, No. 3, 1993, Social Cost Benefit Analysis of Projects of a State Industrial Development Corporation.
4. Independent Evaluations Group, The World Bank Group (2010), Cost Benefit Analysis in World Bank Projects.
5. United Nations Industrial Development Organisation (UNIDO), Project Formulation and Evaluation Series No. 2, Guidelines for Project Evaluation.
6. Evans, David. Economic Issues, March 2008, Vol. 13 Issue 1, Social Project Appraisal and Discounting for the Very Long Term, p61-70.
7. M. S. Feldstein, The Economic Journal, Vol. 74, No. 294 (Jun., 1964), The Social Time Preference Discount Rate in Cost Benefit Analysis, pp. 360-379.
8. Inder Jit Ruprah, Nonie Working Paper No. 3 January 2003, "You Can get It If You Really Want": Impact Evaluation Experience of the Office of Evaluation and Oversight of the Inter-American Development Bank.
9. Dasgupta, Partha, Bulletin of the Oxford University Institute of Economics & Statistics, Feb72, Vol. 34 Issue 1, A Comparative Analysis of the UNIDO Guidelines and the OECD Manual, p33-51.
10. Satya Prakash Singh and Manoj Anand, Panjab University - Business School and Indian Institute of Management Lucknow, July - September 1992, Social Cost Benefit Analysis of an Auto Ancillary Project Margin, pp. 349-362.
11. Stewart, Frances; Streeten, Paul. Bulletin of the Oxford University Institute of Economics & Statistics, Feb72, Vol. 34 Issue 1, Little-Mirrlees Methods and Project Appraisal, p75-91.
12. Stern, N.H. Bulletin of the Oxford University Institute of Economics & Statistics, Feb72, Vol. 34 Issue 1, Experience with the use of the Little/Mirrlees Method for an Appraisal of Small-Holder Tea in Kenya, p93-123.

13. Little, Ian M.D; Mirrlees, James A, Bulletin of the Oxford University Institute of Economics & Statistics, Feb72, Vol. 34 Issue 1, A reply to some criticisms of the OECD Manual, p153-168.
14. Evans, David. Economic Issues, Mar2008, Vol. 13 Issue 1, Social Project Appraisal and Discounting for the Very Long Term, p61-70.
15. Little, I. M. D.; Mirrlees, J. A, Proceedings of the World Bank Annual Conference of Development Economics 1990, Project appraisal and planning twenty years on, pp. 351-382.
16. David Canning, Harvard University - Harvard School of Public Health, The Social Rate of Return on Infrastructure Investments.
17. Daniel A. Graham, Duke University - Department of Economics August 1977, Cost-Benefit Analysis Under Uncertainty.
18. Joice Valentim, Faculdade de Medicina de Ribeirão Preto and Mauricio Prado, Copenhagen Business School, March 26, 2008, Social Discount Rates.
19. Michiel J F van Pelt, Arie Kuyvenhoven and Peter Nijkamp, Project Appraisal, volume 5, number 3, September 1990, Project appraisal and sustainability: methodological challenges, pages 139-158.
20. http://scholar.google.co.za/scholar?start=10&q=%22project+appraisal%22&hl=en&as_sd_t=0,5 (November 2012)
21. <http://www-wds.worldbank.org/external/default/main?pagePK=64187835&piPK=64620093&theSitePK=523679&menuPK=64187283&siteName=WDS&sType=2&dAtts=DOCDT,DOCNA,REPNB,LANG,DOCTY,VOLNB,REPNME&sortDesc=DOCDT&query=Cost-benefit%20analysis%20for%20developing%20countries> (November 2012)
22. Frances Stewart, World Development, Volume 3, Issue 1, January 1975, A note on social cost-benefit analysis and class conflict in LDCs, Pages 31-39.
23. Frances Stewart, World Development, Volume 6, Issue 2, February 1978, Social cost-benefit analysis in practice: Some reflections in the light of case studies using Little-Mirrlees techniques, Pages 153-165.
24. Jean Drèze, Nicholas Stern, Journal of Public Economics, Volume 42, Issue 1, June 1990, Policy reform, shadow prices, and market prices, Pages 1-45.
25. Maurice Marchand, Pierre Pestieau, Journal of Public Economics, Volume 24, Issue 2, July 1984, Discount rates and shadow prices for public investment, Pages 153-169.

26. A. Sheikhi, A.M. Ranjbar, H. Oraee, *Energy and Buildings*, Volume 48, May 2012, Financial analysis and optimal size and operation for a multicarrier energy system, Pages 71-78.
27. A. Eslamimanesh, M.S. Hatamipour, *Desalination*, Volume 250, Issue 1, 1 January 2010, Economical study of a small-scale direct contact humidification–dehumidification desalination plant, Pages 203-207.
28. Christoph Grimm, *Crop Protection*, Volume 20, Issue 7, August 2001, Economic feasibility of a small-scale production plant for entomopathogenic fungi in Nicaragua, Pages 623-630.
29. Dieter Weiss, *Socio-Economic Planning Sciences* Volume 12, Issue 6, 1978, Economic evaluation of projects: A critical comparison of a new world bank methodology with the UNIDO and the revised OECD approach, Pages 347–363.
30. Caroline Dinwiddy, Francis Teal, *Journal of Public Economics*, Volume 40, Issue 3, December 1989, Relative shadow prices and the shadow exchange rate, Pages 349-358.
31. Andrea Maneschi, *Economics of Planning* 1982, Volume 18, Issue 3, Methodologies of project selection in the presence of constraints, pp 143-156.
32. http://www.unido.org/fileadmin/user_media/Services/Investment_and_Technology_Promotion/COMFAR/brochure_english.pdf (December 2012)
33. <http://www.statssa.gov.za/publications/D04052/D040522008.pdf> (December 2012)
34. www.unido.org/comfar (November 2012)

APPENDICES

APPENDIX A – PROJECT RESULTS

Project 1

SUMMARY SHEET

Project title:	Project 1 - TRSL
Project description:	Establishment of a rolling stock leasing company that owns locomotives and/or rolling stock, such as locomotives, wagons and rail cars and leases them to other rail operators.
Date and time:	6 June 2011
Project classification:	New project
Construction phase:	1/2011 - 12/2011
Length:	1 years
Production phase:	1/2012 - 12/2021
Length:	10 years
Accounting currency:	South African Rand (ZAR)
Units:	Absolute
Local currency:	South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	243,078,478.50	905,133,444.00	1,148,211,922.50
Total pre-production expenditures	16,607,658.50	0.00	16,607,658.50
<i>Pre-production expenditures (net of interest)</i>	2,424,211.50	0.00	2,424,211.50
<i>Interest</i>	14,183,447.00	0.00	14,183,447.00
Increase in net working capital	0.00	49,446.17	49,446.17
TOTAL INVESTMENT COSTS	259,686,137.00	905,182,890.18	1,164,869,027.18

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	24,172,308.29	50,000,000.00	74,172,308.29
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	24,172,308.29	50,000,000.00	74,172,308.29
Total long-term loans	235,513,828.72	966,648,000.00	1,202,161,828.72
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	235,513,828.72	966,648,000.00	1,202,161,828.72
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	0.00	0.00
TOTAL SOURCES OF FINANCE	259,686,137.00	1,016,648,000.00	1,276,334,137.00

INCOME AND COSTS, OPERATIONS

	First year 2012	Reference year 2012	Last year 2021
SALES REVENUE	52,855,406.47	52,855,406.47	177,008,838.48
Factory costs	28,053,432.91	28,053,432.91	27,847,914.17
Administrative overhead costs	1,500,574.36	1,500,574.36	2,339,339.36
OPERATING COSTS	29,554,007.27	29,554,007.27	30,187,253.53
Depreciation	9,101,387.02	9,101,387.02	32,563,992.02
Financial costs	57,257,960.58	57,257,960.58	0.00
TOTAL PRODUCTION COSTS	95,913,354.87	95,913,354.87	62,751,245.55
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	95,913,354.87	95,913,354.87	62,751,245.55
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-43,057,948.40	-43,057,948.40	114,257,592.93
Extraordinary income	0.00	0.00	0.00

SUMMARY SHEET

Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-43,057,948.40	-43,057,948.40	114,257,592.93
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	114,257,592.93
Income (corporate) tax	0.00	0.00	31,992,126.02
NET PROFIT	-43,057,948.40	-43,057,948.40	82,265,466.91

RATIOS

Net Present Value of Total Capital Invested	at 8.00%	73,044,972.10
Internal rate of return on investment (IRR)	9.17%	
Modified IRR on investment	6.01%	
Net Present Value of Total Equity Capital Invested	at 8.00%	107,046,004.03
Internal rate of return on equity (IRRE)	12.15%	
Modified IRRE on equity	12.15%	
Net present values discounted to	12/2011	

VALUE-ADDED CRITERIA

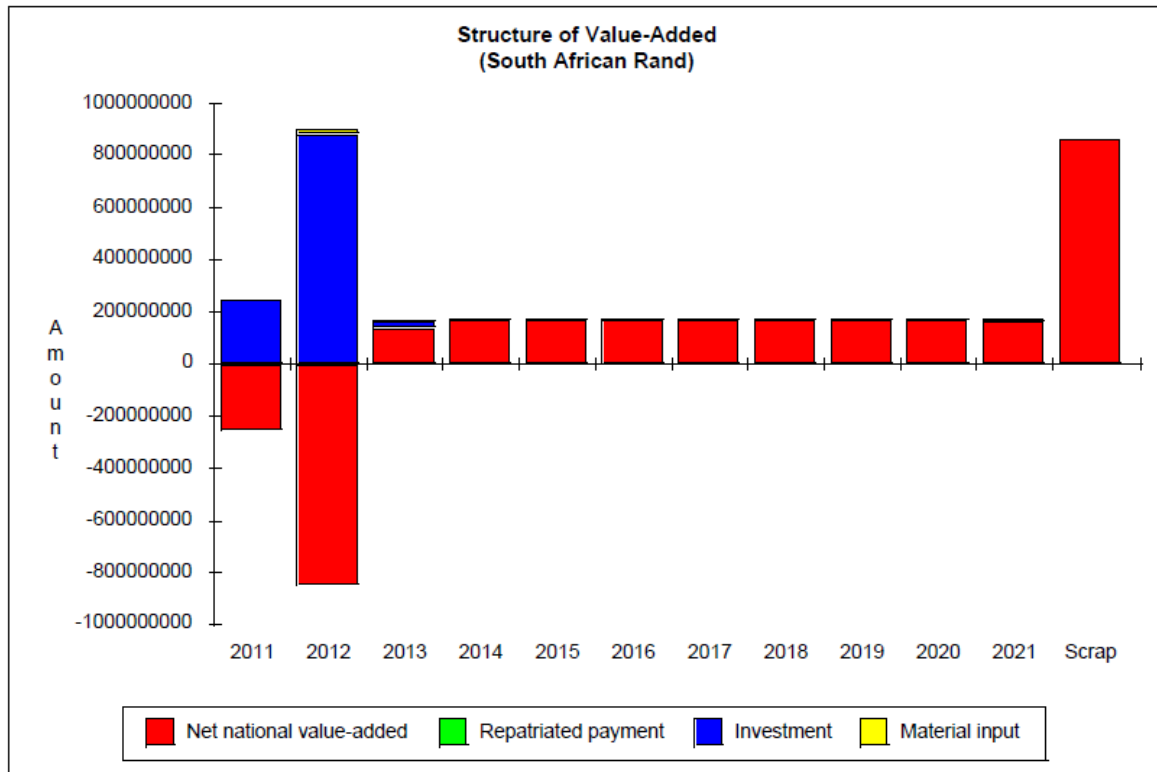
South African Rand

	Present value	Grand total	2011	2012
Value of output (incl. tax)	1,180,631,112.23	2,500,780,206.84	0.00	52,855,406.47
Material input	63,549,521.12	109,242,211.50	0.00	18,058,946.96
GROSS DOMESTIC VALUE-ADDED	1,117,081,591.11	2,391,537,995.34	0.00	34,796,459.51
Investment	1,053,335,128.79	1,150,636,134.00	245,502,690.00	878,548,749.70
NET DOMESTIC VALUE-ADDED	63,746,462.32	1,240,901,861.34	-245,502,690.00	-843,752,290.19
Repatriated payment	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	63,746,462.32	1,240,901,861.34	-245,502,690.00	-843,752,290.19
Distribution of value-added (%)				
Wages to value-added	107.85	10.12	0.00	-1.18
Dividends, interest to value-added	368.13	26.58	-5.78	-6.79
Government to value-added	163.10	17.30	0.00	0.00
Others to value-added	-539.08	46.01	105.78	107.97
Absolute efficiency test				
PV (NNVA) to PV (wages)	0.93			
Relative efficiency test				
PV (NNVA) to PV (investment)	0.06			
PV (NNVA) to PV (foreign exchange)	0.00			
PV (NNVA) to PV (skilled labour)	0.93			
PV (NNVA) to PV (labour)	0.93			

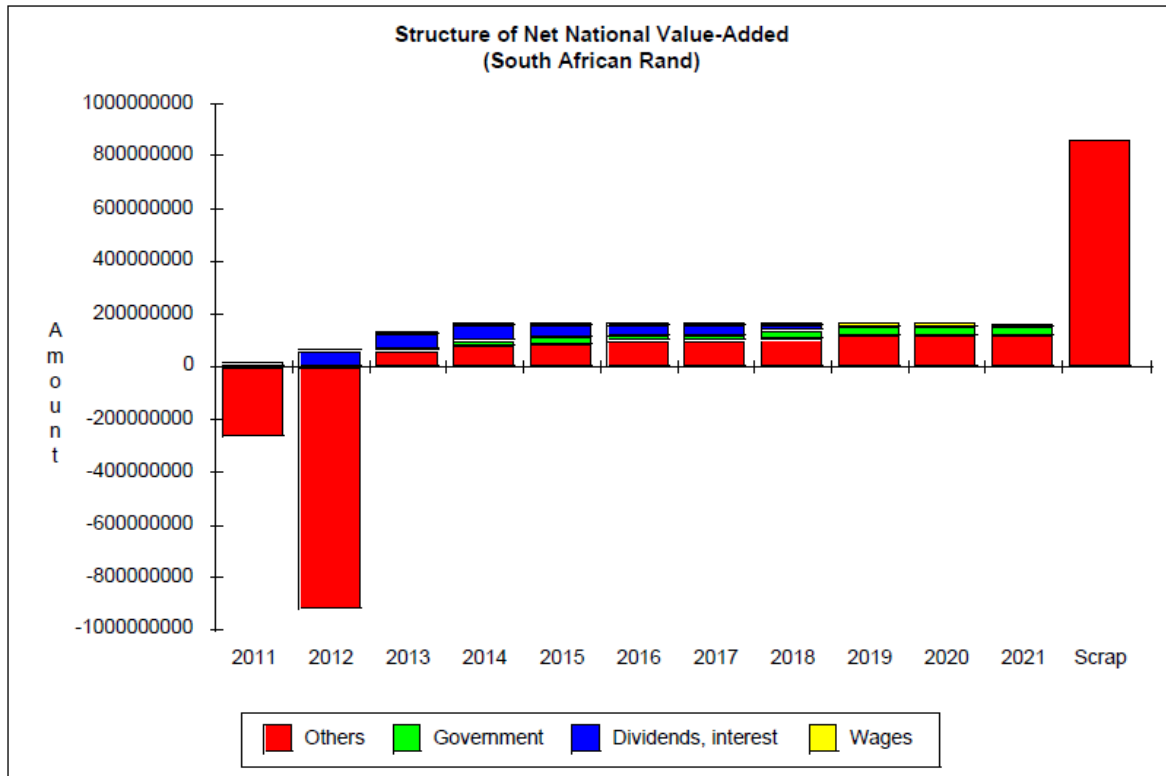
VALUE-ADDED CRITERIA				
South African Rand				
	2013	2014	2015	2016
Value of output (incl. tax)	170,987,669.80	176,369,390.00	176,464,629.47	176,558,155.72
Material input	9,669,164.71	8,221,241.97	8,719,984.33	9,247,259.68
GROSS DOMESTIC VALUE-ADDED	161,318,505.09	168,148,148.03	167,744,645.13	167,310,896.04
Investment	26,584,694.31	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	134,733,810.79	168,148,148.03	167,744,645.13	167,310,896.04
Repatriated payment	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	134,733,810.79	168,148,148.03	167,744,645.13	167,310,896.04
Distribution of value-added (%)				
Wages to value-added	7.79	6.56	6.89	7.26
Dividends, interest to value-added	44.53	35.28	28.47	21.62
Government to value-added	2.99	10.59	12.37	14.16
Others to value-added	44.69	47.57	52.27	56.96
Absolute efficiency test				
PV (NNVA) to PV (wages)				
Relative efficiency test				
PV (NNVA) to PV (investment)				
PV (NNVA) to PV (foreign exchange)				
PV (NNVA) to PV (skilled labour)				
PV (NNVA) to PV (labour)				

VALUE-ADDED CRITERIA				
South African Rand				
	2017	2018	2019	2020
Value of output (incl. tax)	176,648,200.38	176,738,290.96	176,828,427.49	176,918,609.99
Material input	9,808,017.72	10,401,479.65	11,030,709.21	11,698,776.32
GROSS DOMESTIC VALUE-ADDED	166,840,182.66	166,336,811.31	165,797,718.28	165,219,833.67
Investment	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	166,840,182.66	166,336,811.31	165,797,718.28	165,219,833.67
Repatriated payment	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	166,840,182.66	166,336,811.31	165,797,718.28	165,219,833.67
Distribution of value-added (%)				
Wages to value-added	7.61	8.05	8.46	8.92
Dividends, interest to value-added	20.42	10.84	1.81	0.00
Government to value-added	14.37	16.89	19.27	19.61
Others to value-added	57.61	64.22	70.46	71.47
Absolute efficiency test				
PV (NNVA) to PV (wages)				
Relative efficiency test				
PV (NNVA) to PV (investment)				
PV (NNVA) to PV (foreign exchange)				
PV (NNVA) to PV (skilled labour)				
PV (NNVA) to PV (labour)				

VALUE-ADDED CRITERIA		
South African Rand		
	2021	Scrap 2022
Value of output (incl. tax)	177,008,838.48	863,402,588.08
Material input	12,386,630.95	0.00
GROSS DOMESTIC VALUE-ADDED	164,622,207.53	863,402,588.08
Investment	0.00	0.00
NET DOMESTIC VALUE-ADDED	164,622,207.53	863,402,588.08
Repatriated payment	0.00	0.00
NET NATIONAL VALUE-ADDED	164,622,207.53	863,402,588.08
Distribution of value-added (%)		
Wages to value-added	9.39	0.00
Dividends, interest to value-added	0.00	0.00
Government to value-added	19.43	0.00
Others to value-added	71.17	100.00
Absolute efficiency test		
PV (NNVA) to PV (wages)		
Relative efficiency test		
PV (NNVA) to PV (investment)		
PV (NNVA) to PV (foreign exchange)		
PV (NNVA) to PV (skilled labour)		
PV (NNVA) to PV (labour)		



	Net national value-added	Repatriated payment	Investment	Material input
2011	-245,502,690.00	0.00	245,502,690.00	0.00
2012	-843,752,290.19	0.00	878,548,749.70	18,058,946.96
2013	134,733,810.79	0.00	26,584,694.31	9,669,164.71
2014	168,148,148.03	0.00	0.00	8,221,241.97
2015	167,744,645.13	0.00	0.00	8,719,984.33
2016	167,310,896.04	0.00	0.00	9,247,259.68
2017	166,840,182.66	0.00	0.00	9,808,017.72
2018	166,336,811.31	0.00	0.00	10,401,479.65
2019	165,797,718.28	0.00	0.00	11,030,709.21
2020	165,219,833.67	0.00	0.00	11,698,776.32
2021	164,622,207.53	0.00	0.00	12,386,630.95
Scrap	863,402,588.08	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
2011	-259,686,137.00	0.00	14,183,447.00	0.00
2012	-911,004,736.71	0.00	57,257,960.58	9,994,485.95
2013	60,209,996.85	4,027,566.87	59,996,780.16	10,499,466.92
2014	79,989,927.70	17,799,235.08	59,328,912.47	11,030,072.78
2015	87,672,298.88	20,754,502.85	47,752,539.31	11,565,304.09
2016	95,299,024.51	23,686,152.44	36,176,166.14	12,149,552.96
2017	96,112,595.04	23,966,659.14	34,061,251.81	12,699,676.68
2018	106,826,236.78	28,095,204.51	18,032,427.43	13,382,942.59
2019	116,817,372.79	31,941,174.12	3,005,404.57	14,033,766.79
2020	118,084,878.50	32,392,235.26	0.00	14,742,719.91
2021	117,168,798.29	31,992,126.02	0.00	15,461,283.21
Scrap	863,402,588.08	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	2011	2012	2013	2014	2015
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	559,113,355.66	1,020,608,301.32	0.00	33,827,460.14	109,412,878.51	109,470,867.34	109,529,981.61
Indirect foreign exchange outflows	314,958,065.54	350,390,655.45	116,733,837.75	116,798,041.36	116,858,776.34	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	244,155,290.13	670,217,645.87	-116,733,837.75	-82,970,581.22	-7,445,897.83	109,470,867.34	109,529,981.61
NET FOREIGN EXCHANGE EFFECTS	244,155,290.13	670,217,645.87	-116,733,837.75	-82,970,581.22	-7,445,897.83	109,470,867.34	109,529,981.61

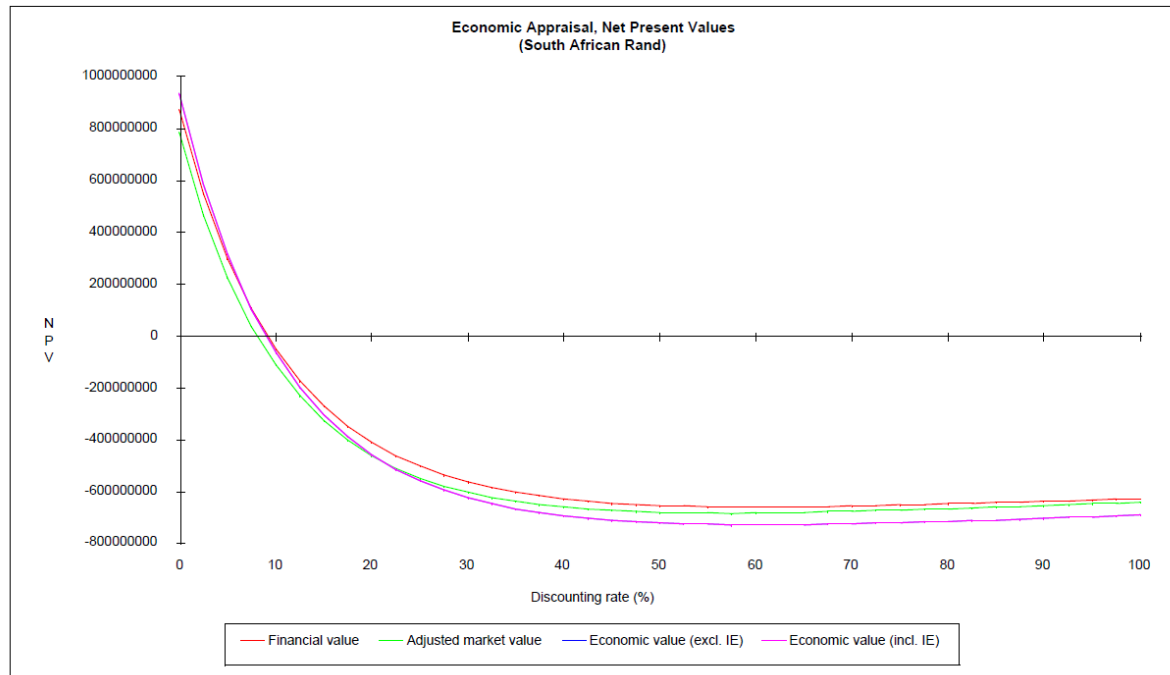
NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	2016	2017	2018	2019	2020	2021	Scrap 2022
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	109,588,032.50	109,643,922.39	109,699,840.79	109,755,787.71	109,811,763.16	109,867,767.16	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	109,588,032.50	109,643,922.39	109,699,840.79	109,755,787.71	109,811,763.16	109,867,767.16	0.00
NET FOREIGN EXCHANGE EFFECTS	109,588,032.50	109,643,922.39	109,699,840.79	109,755,787.71	109,811,763.16	109,867,767.16	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	200.00	200.00	1,164,869,027.18	0.00	0.00	0.00
Indirect employment	2,140.00	2,140.00	4,280.00	0.00	0.00	0.00	0.00
Total employment	2,140.00	2,340.00	4,480.00	1,164,869,027.18	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	116.55	116.55
Indirect employment	0.00	0.00	0.00
Total employment	9.91	9.14	3.36

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	1,180,647,465.36	0.85	1,001,631,170.65	71.49	143,247,408.27	1,144,878,578.92	0.00
Inflow operation	895,081,473.54	0.80	716,065,178.83	100.00	143,247,408.27	859,312,587.10	0.00
Other income	285,565,991.82	1.00	285,565,991.82	0.00	0.00	285,565,991.82	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	1,314,179,399.30	0.91	1,196,459,671.74	43.52	104,155,003.63	1,300,614,675.37	0.00
Increase in fixed assets	1,067,518,575.79	1.00	1,067,518,575.79	48.77	104,155,003.63	1,171,673,579.42	0.00
Increase in net working capital	37,656.20	1.00	37,656.20	0.00	0.00	37,656.20	0.00
Operating costs	142,653,648.65	0.90	128,903,439.75	0.00	0.00	128,903,439.75	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	103,969,518.67	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	-133,531,933.94	1.46	-194,828,501.09	-100.30	39,092,404.64	-155,736,096.45	0.00
INTERNAL RATE OF RETURN	9.17	---	8.08	---	---	9.00	---
BENEFIT-COST RATIO	0.90	---	0.84	---	---	0.88	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	1,144,878,578.92
Inflow operation	859,312,587.10
Other income	285,565,991.82
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	1,300,614,675.37
Increase in fixed assets	1,171,673,579.42
Increase in net working capital	37,656.20
Operating costs	128,903,439.75
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	-155,736,096.45
INTERNAL RATE OF RETURN	9.00
BENEFIT-COST RATIO	0.88



Discounting rate (%)	Financial value	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	867,581,072.95	779,872,259.87	928,028,117.22	928,028,117.22
10.00 %	-47,295,920.95	-111,575,869.15	-62,063,433.37	-62,063,433.37
20.00 %	-408,743,803.77	-458,242,733.23	-455,304,517.24	-455,304,517.24
30.00 %	-560,552,763.42	-600,123,064.39	-621,042,516.71	-621,042,516.71
40.00 %	-624,912,772.01	-657,474,519.65	-691,351,788.59	-691,351,788.59
50.00 %	-649,860,829.70	-677,274,198.83	-718,459,068.37	-718,459,068.37
60.00 %	-655,981,033.10	-679,487,866.69	-724,862,971.56	-724,862,971.56
70.00 %	-652,763,234.41	-673,225,551.13	-720,983,220.35	-720,983,220.35
80.00 %	-644,858,051.92	-662,894,154.08	-711,944,448.94	-711,944,448.94
90.00 %	-634,659,998.02	-650,725,879.88	-700,391,806.43	-700,391,806.43
100.00 %	-623,449,354.62	-637,889,406.26	-687,741,420.73	-687,741,420.73

Project 2

SUMMARY SHEET

Project title:	Project 2 - WT
Project description:	The establishment of a 3 star graded resort in the Western Cape.
Date and time:	
Project classification:	New project
Construction phase:	4/2012 - 11/2012
Length:	8 months
Production phase:	12/2012 - 2/2024
Length:	12 years
Accounting currency:	South African Rand (ZAR)
Units:	Absolute
Local currency:	South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	23,000,000.00	0.00	23,000,000.00
Total pre-production expenditures	1,590,956.62	1,109,526.28	2,700,482.90
<i>Pre-production expenditures (net of interest)</i>	882,000.00	0.00	882,000.00
<i>Interest</i>	708,956.62	1,109,526.28	1,818,482.90
Increase in net working capital	0.00	2,037,701.76	2,037,701.76
TOTAL INVESTMENT COSTS	24,590,956.62	3,147,228.04	27,738,184.66

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	9,800,000.00	0.00	9,800,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	9,800,000.00	0.00	9,800,000.00
Total long-term loans	15,245,407.29	1,109,526.28	16,354,933.56
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	15,245,407.29	1,109,526.28	16,354,933.56
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	513,694.44	513,694.44
TOTAL SOURCES OF FINANCE	25,045,407.29	1,623,220.72	26,668,628.01

INCOME AND COSTS, OPERATIONS

	First year 12/2012-2/2013	Reference year 12/2012-2/2013	Last year 3/2023-2/2024
SALES REVENUE	0.00	0.00	21,565,000.00
Factory costs	0.00	0.00	12,301,994.00
Administrative overhead costs	0.00	0.00	451,000.00
OPERATING COSTS	0.00	0.00	12,752,994.00
Depreciation	357,000.00	357,000.00	306,000.00
Financial costs	0.00	0.00	94,790.47
TOTAL PRODUCTION COSTS	357,000.00	357,000.00	13,153,784.47
Marketing costs	0.00	0.00	859,000.00
COSTS OF PRODUCTS	357,000.00	357,000.00	14,012,784.47
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-357,000.00	-357,000.00	7,552,215.53
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-357,000.00	-357,000.00	7,552,215.53

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	7,552,215.53
Income (corporate) tax	0.00	0.00	2,114,620.35
NET PROFIT	-357,000.00	-357,000.00	5,437,595.18

RATIOS

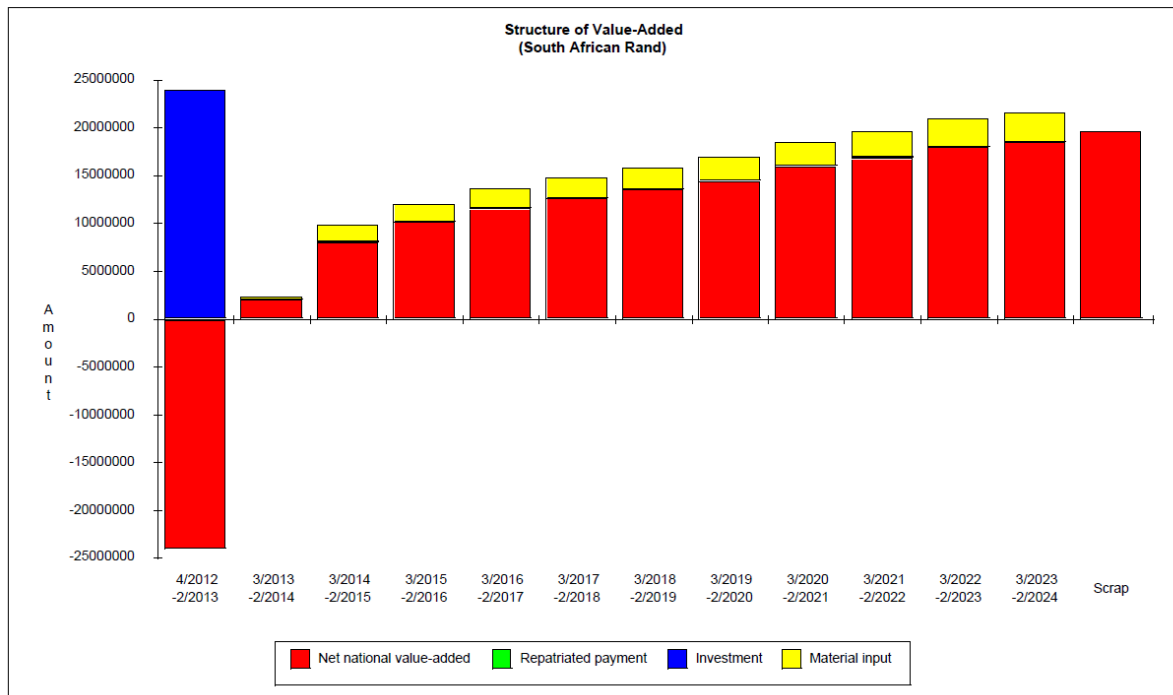
Net Present Value of Total Capital Invested	at 5.00%	17,817,254.51
Internal rate of return on investment (IRR)	12.52%	
Modified IRR on investment	12.52%	
Net Present Value of Total Equity Capital Invested	at 5.00%	16,933,147.77
Internal rate of return on equity (IRRE)	17.53%	
Modified IRRE on equity	17.53%	
Net present values discounted to	11/2012	

VALUE-ADDED CRITERIA
South African Rand

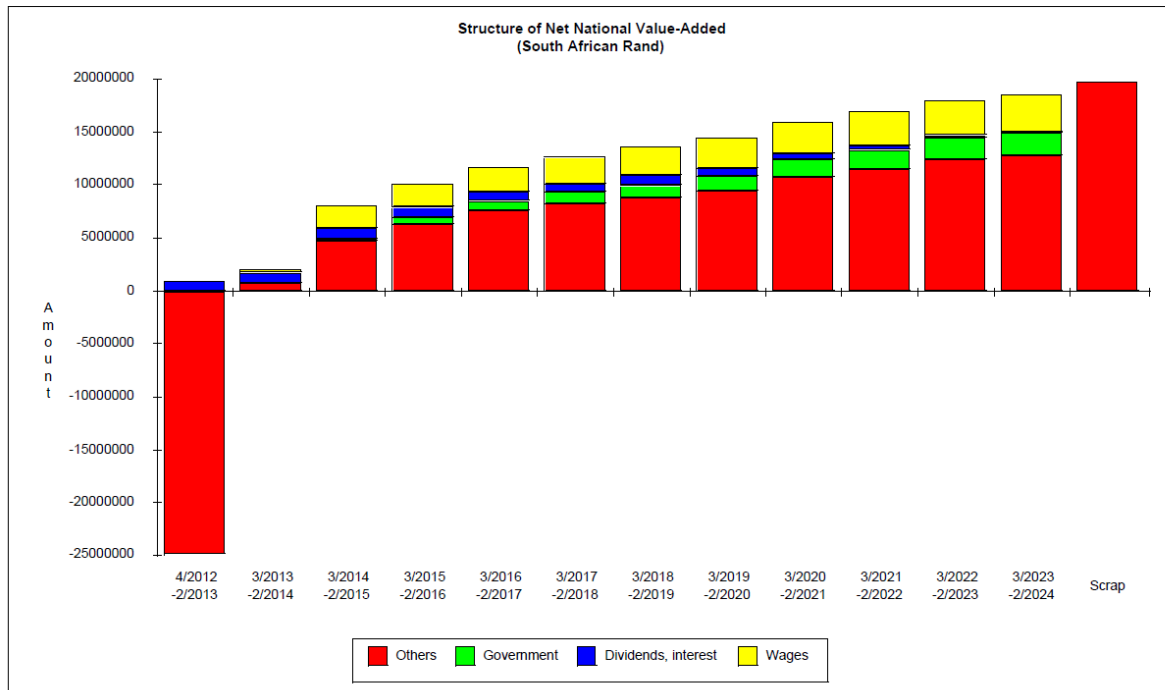
	Present value	Grand total	4/2012 -2/2013	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016	3/2016 -2/2017	3/2017 -2/2018
Value of output (incl. tax)	83,541,475.15	185,708,816.23	0.00	2,363,000.00	9,874,000.00	12,042,000.00	13,654,000.00	14,777,000.00
Material input	11,664,580.94	24,420,000.00	0.00	317,000.00	1,802,000.00	1,948,000.00	2,055,000.00	2,193,000.00
GROSS DOMESTIC VALUE-ADDED	71,876,894.21	161,288,816.23	0.00	2,046,000.00	8,072,000.00	10,094,000.00	11,599,000.00	12,584,000.00
Investment	23,398,219.01	24,137,833.33	23,882,000.00	26,416.67	123,750.00	12,166.67	8,916.67	11,500.00
NET DOMESTIC VALUE-ADDED	48,478,675.20	137,150,982.90	-23,882,000.00	2,019,583.33	7,948,250.00	10,081,833.33	11,590,083.33	12,572,500.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	48,478,675.20	137,150,982.90	-23,882,000.00	2,019,583.33	7,948,250.00	10,081,833.33	11,590,083.33	12,572,500.00
Distribution of value-added (%)								
Wages to value-added	27.53	20.35	0.00	19.36	26.27	21.95	20.24	19.83
Dividends, interest to value-added	11.13	6.20	-3.85	44.51	12.76	9.01	6.92	6.09
Government to value-added	11.52	9.51	0.00	0.00	2.60	6.25	7.97	8.72
Others to value-added	49.81	63.94	103.85	36.13	58.37	62.79	64.87	65.37
Absolute efficiency test								
PV (NNVA) to PV (wages)	3.63							
Relative efficiency test								
PV (NNVA) to PV (investment)	2.07							
PV (NNVA) to PV (foreign exchange)	0.00							
PV (NNVA) to PV (skilled labour)	3.63							
PV (NNVA) to PV (labour)	3.63							

VALUE-ADDED CRITERIA
South African Rand

	3/2018 -2/2019	3/2019 -2/2020	3/2020 -2/2021	3/2021 -2/2022	3/2022 -2/2023	3/2023 -2/2024	Scrap 3/2024-2/2025
Value of output (incl. tax)	15,857,000.00	16,873,000.00	18,453,000.00	19,651,000.00	20,918,000.00	21,565,000.00	19,681,816.23
Material input	2,320,000.00	2,479,000.00	2,527,000.00	2,785,000.00	2,924,000.00	3,070,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	13,537,000.00	14,394,000.00	15,926,000.00	16,866,000.00	17,994,000.00	18,495,000.00	19,681,816.23
Investment	10,583.33	13,250.00	4,000.00	21,500.00	11,583.33	12,166.67	0.00
NET DOMESTIC VALUE-ADDED	13,526,416.67	14,380,750.00	15,922,000.00	16,844,500.00	17,982,416.67	18,482,833.33	19,681,816.23
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	13,526,416.67	14,380,750.00	15,922,000.00	16,844,500.00	17,982,416.67	18,482,833.33	19,681,816.23
Distribution of value-added (%)							
Wages to value-added	19.48	19.43	18.60	18.64	18.51	19.08	0.00
Dividends, interest to value-added	7.17	5.53	3.89	2.64	1.50	0.51	0.00
Government to value-added	8.85	9.37	10.61	10.81	11.24	11.44	0.00
Others to value-added	64.50	65.67	66.90	67.91	68.75	68.96	100.00
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							



	Net national value-added	Repatriated payment	Investment	Material input
4/2012-2/2013	-23,882,000.00	0.00	23,882,000.00	0.00
3/2013-2/2014	2,019,583.33	0.00	26,416.67	317,000.00
3/2014-2/2015	7,948,250.00	0.00	123,750.00	1,802,000.00
3/2015-2/2016	10,081,833.33	0.00	12,166.67	1,948,000.00
3/2016-2/2017	11,590,083.33	0.00	8,916.67	2,055,000.00
3/2017-2/2018	12,572,500.00	0.00	11,500.00	2,193,000.00
3/2018-2/2019	13,526,416.67	0.00	10,583.33	2,320,000.00
3/2019-2/2020	14,380,750.00	0.00	13,250.00	2,479,000.00
3/2020-2/2021	15,922,000.00	0.00	4,000.00	2,527,000.00
3/2021-2/2022	16,844,500.00	0.00	21,500.00	2,785,000.00
3/2022-2/2023	17,982,416.67	0.00	11,583.33	2,924,000.00
3/2023-2/2024	18,482,833.33	0.00	12,166.67	3,070,000.00
Scrap	19,681,816.23	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
4/2012-2/2013	-24,801,543.22	0.00	919,543.22	0.00
3/2013-2/2014	729,640.65	0.00	898,939.68	391,003.00
3/2014-2/2015	4,639,356.84	206,541.55	1,014,346.61	2,088,005.00
3/2015-2/2016	6,330,807.02	629,989.77	908,039.54	2,212,997.00
3/2016-2/2017	7,518,845.31	923,518.55	801,732.47	2,345,987.00
3/2017-2/2018	8,218,053.95	1,095,909.87	765,547.18	2,492,989.00
3/2018-2/2019	8,724,855.49	1,196,781.76	969,779.41	2,635,000.00
3/2019-2/2020	9,444,267.95	1,347,701.42	794,781.63	2,793,999.00
3/2020-2/2021	10,652,478.52	1,688,741.65	619,783.84	2,960,996.00
3/2021-2/2022	11,439,255.49	1,821,460.47	444,786.05	3,138,998.00
3/2022-2/2023	12,363,407.84	2,021,246.57	269,788.26	3,327,974.00
3/2023-2/2024	12,746,428.52	2,114,620.35	94,790.47	3,526,994.00
Scrap	19,681,816.23	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS		South African Rand							
	Present value	Grand total	4/2012-2/2013	3/2013-2/2014	3/2014-2/2015	3/2015-2/2016	3/2016-2/2017	3/2017-2/2018	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Indirect foreign exchange outflows	1,896,799.03	1,950,000.00	1,950,000.00	0.00	0.00	0.00	0.00	0.00	
NET FOREIGN INDIRECT EFFECTS	-1,896,799.03	-1,950,000.00	-1,950,000.00	0.00	0.00	0.00	0.00	0.00	
NET FOREIGN EXCHANGE EFFECTS	-1,896,799.03	-1,950,000.00	-1,950,000.00	0.00	0.00	0.00	0.00	0.00	

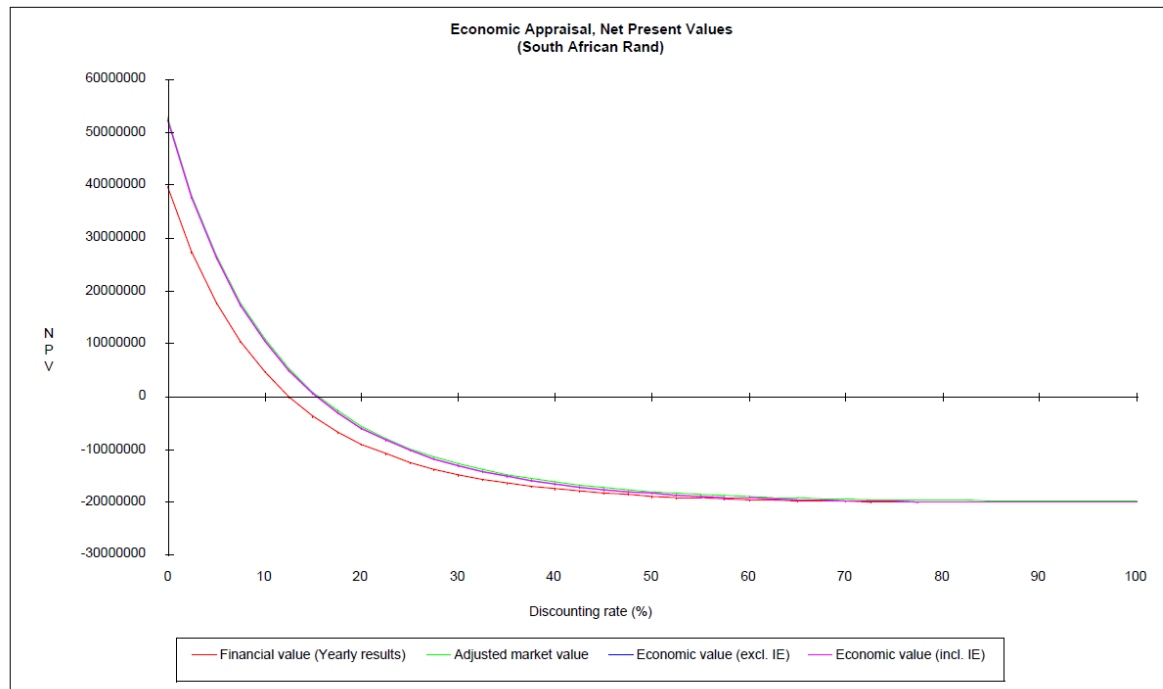
NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	3/2018 -2/2019	3/2019 -2/2020	3/2020 -2/2021	3/2021 -2/2022	3/2022 -2/2023	3/2023 -2/2024	Scrap 3/2024-2/2025
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	62.00	62.00	27,738,184.66	0.00	0.00	0.00
Indirect employment	16.00	15.00	31.00	0.00	0.00	0.00	0.00
Total employment	16.00	77.00	93.00	27,738,184.66	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	15.24	16.25	16.25

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	84,054,664.26	1.00	84,054,664.26	0.00	0.00	84,054,664.26	0.00
Inflow operation	77,872,990.50	1.00	77,872,990.50	0.00	0.00	77,872,990.50	0.00
Other income	6,181,673.76	1.00	6,181,673.76	0.00	0.00	6,181,673.76	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	82,671,716.27	0.93	77,085,662.04	2.46	379,450.86	77,465,112.89	0.00
Increase in fixed assets	24,907,717.78	1.00	24,907,717.78	7.62	379,450.86	25,287,168.63	0.00
Increase in net working capital	1,319,035.13	1.00	1,319,035.13	0.00	0.00	1,319,035.13	0.00
Operating costs	47,800,600.26	1.00	47,800,600.26	0.00	0.00	47,800,600.26	0.00
Marketing costs	3,058,308.87	1.00	3,058,308.87	0.00	0.00	3,058,308.87	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	5,586,054.23	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	1,382,947.99	5.04	6,969,002.22	-27.22	-379,450.86	6,589,551.37	0.00
INTERNAL RATE OF RETURN	12.52	---	15.59	---	---	15.35	---
BENEFIT-COST RATIO	1.02	---	1.09	---	---	1.09	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	84,054,664.26
Inflow operation	77,872,990.50
Other income	6,181,673.76
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	77,465,112.89
Increase in fixed assets	25,287,168.63
Increase in net working capital	1,319,035.13
Operating costs	47,800,600.26
Marketing costs	3,058,308.87
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	6,589,551.37
INTERNAL RATE OF RETURN	15.35
BENEFIT-COST RATIO	1.09



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	39,703,046.05	52,749,558.00	52,359,464.40	52,359,464.40
10.00 %	4,612,564.62	10,864,925.77	10,484,017.27	10,484,017.27
20.00 %	-8,893,806.38	-5,523,460.43	-5,896,172.55	-5,896,172.55
30.00 %	-14,706,804.27	-12,708,666.01	-13,073,994.04	-13,073,994.04
40.00 %	-17,428,836.57	-16,150,415.02	-16,509,036.94	-16,509,036.94
50.00 %	-18,774,626.56	-17,905,436.58	-18,257,925.95	-18,257,925.95
60.00 %	-19,451,930.87	-18,831,590.58	-19,178,438.29	-19,178,438.29
70.00 %	-19,780,249.87	-19,319,908.73	-19,661,539.20	-19,661,539.20
80.00 %	-19,915,504.76	-19,562,915.85	-19,899,699.27	-19,899,699.27
90.00 %	-19,939,075.20	-19,661,913.90	-19,994,175.72	-19,994,175.72
100.00 %	-19,895,937.74	-19,673,318.47	-20,001,346.78	-20,001,346.78

Project 3

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 3 - ARC
 Project description: The project is for the development of a wind renewable energy project/s in the Eastern Cape.
 Date and time:
 Project classification: New project
 Construction phase: 1/2011 - 12/2011
 Length: 1 years
 Production phase: 1/2012 - 12/2032
 Length: 21 years
 Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	986,223,000.00	4,029,570,000.00	5,015,793,000.00
Total pre-production expenditures	484,786,556.62	672,711,820.63	1,157,498,377.26
<i>Pre-production expenditures (net of interest)</i>	625,000.00	0.00	625,000.00
<i>Interest</i>	484,161,556.62	672,711,820.63	1,156,873,377.26
Increase in net working capital	0.00	15,488,000.00	15,488,000.00
TOTAL INVESTMENT COSTS	1,471,009,556.62	4,717,769,820.63	6,188,779,377.26

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	21,945,000.00	61,553,000.00	83,498,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	21,945,000.00	61,553,000.00	83,498,000.00
Total long-term loans	2,861,915,741.01	3,061,765,820.63	5,923,681,561.64
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	2,861,915,741.01	3,061,765,820.63	5,923,681,561.64
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	0.00	0.00
TOTAL SOURCES OF FINANCE	2,883,860,741.01	3,123,318,820.63	6,007,179,561.64

INCOME AND COSTS, OPERATIONS

	First year 2012	Reference year 2012	Last year 2032
SALES REVENUE	119,112,000.00	119,112,000.00	1,462,582,000.00
Factory costs	94,916,000.00	94,916,000.00	185,856,000.00
Administrative overhead costs	0.00	0.00	0.00
OPERATING COSTS	94,916,000.00	94,916,000.00	185,856,000.00
Depreciation	49,936,150.00	49,936,150.00	201,478,500.00
Financial costs	242,870,944.03	242,870,944.03	0.00
TOTAL PRODUCTION COSTS	387,723,094.03	387,723,094.03	387,334,500.00
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	387,723,094.03	387,723,094.03	387,334,500.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-268,611,094.03	-268,611,094.03	1,075,247,500.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00

SUMMARY SHEET

GROSS PROFIT	-268,611,094.03	-268,611,094.03	1,075,247,500.00
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	1,075,247,500.00
Income (corporate) tax	0.00	0.00	301,069,300.00
NET PROFIT	-268,611,094.03	-268,611,094.03	774,178,200.00

RATIOS

Net Present Value of Total Capital Invested	at 15.00%	767,851,031.71
Internal rate of return on investment (IRR)	17.10%	
Modified IRR on investment	17.10%	
Net Present Value of Total Equity Capital Invested	at 15.00%	767,122,654.31
Internal rate of return on equity (IRRE)	22.86%	
Modified IRRE on equity	22.86%	
Net present values discounted to	12/2011	

VALUE-ADDED CRITERIA
South African Rand

	Present value	Grand total	2011	2012	2013	2014
Value of output (incl. tax)	10,133,125,123.39	36,039,346,456.62	0.00	119,112,000.00	567,711,000.00	1,124,596,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	10,133,125,123.39	36,039,346,456.62	0.00	119,112,000.00	567,711,000.00	1,124,596,000.00
Investment	4,451,280,822.60	5,016,418,000.00	986,848,000.00	2,503,972,000.00	1,525,598,000.00	0.00
NET DOMESTIC VALUE-ADDED	5,681,844,300.79	31,022,928,456.62	-986,848,000.00	-2,384,860,000.00	-957,887,000.00	1,124,596,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	5,681,844,300.79	31,022,928,456.62	-986,848,000.00	-2,384,860,000.00	-957,887,000.00	1,124,596,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	132.14	68.79	-49.06	-38.39	-97.19	77.03
Government to value-added	26.02	23.49	0.00	0.00	0.00	0.00
Others to value-added	-58.16	7.72	149.06	138.39	197.19	22.97
Absolute efficiency test						
PV (NNVA) to PV (wages)	0.00					
Relative efficiency test						
PV (NNVA) to PV (investment)	1.28					
PV (NNVA) to PV (foreign exchange)	0.00					
PV (NNVA) to PV (skilled labour)	0.00					
PV (NNVA) to PV (labour)	0.00					

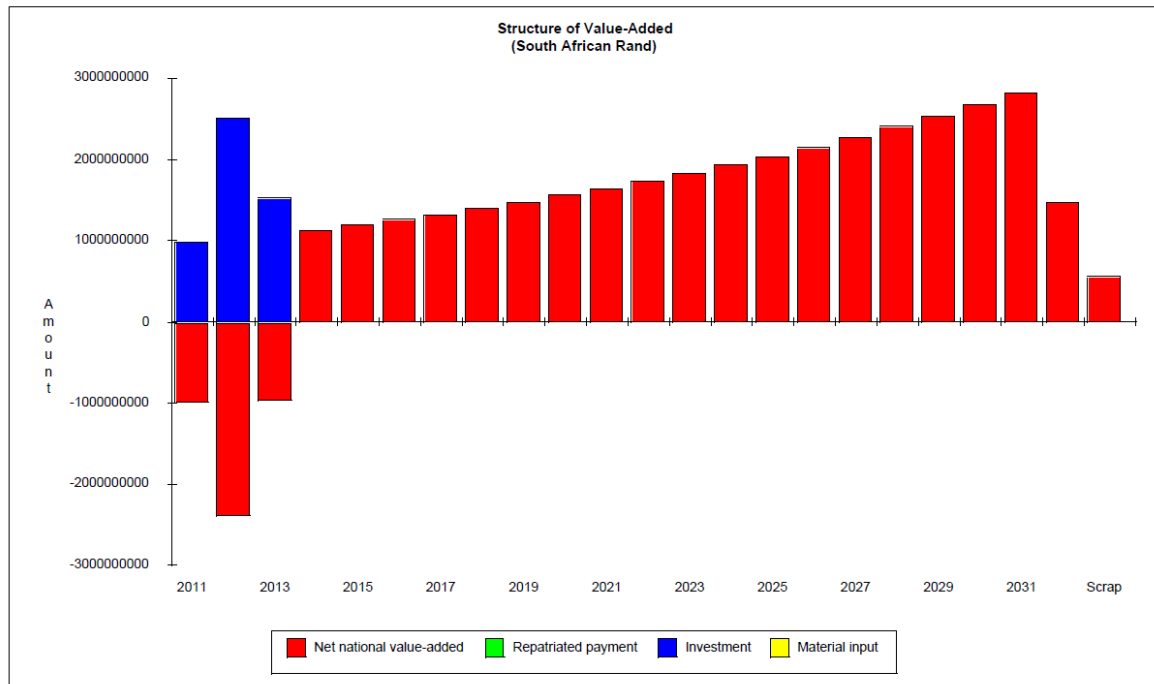
VALUE-ADDED CRITERIA
South African Rand

	2015	2016	2017	2018	2019	2020
Value of output (incl. tax)	1,187,011,000.00	1,256,185,000.00	1,322,426,000.00	1,395,821,000.00	1,473,289,000.00	1,559,146,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	1,187,011,000.00	1,256,185,000.00	1,322,426,000.00	1,395,821,000.00	1,473,289,000.00	1,559,146,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	1,187,011,000.00	1,256,185,000.00	1,322,426,000.00	1,395,821,000.00	1,473,289,000.00	1,559,146,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	1,187,011,000.00	1,256,185,000.00	1,322,426,000.00	1,395,821,000.00	1,473,289,000.00	1,559,146,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	70.72	66.18	60.80	52.73	47.52	38.49
Government to value-added	2.02	5.42	8.19	9.34	11.70	13.44
Others to value-added	27.26	28.40	31.01	37.93	40.78	48.07
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

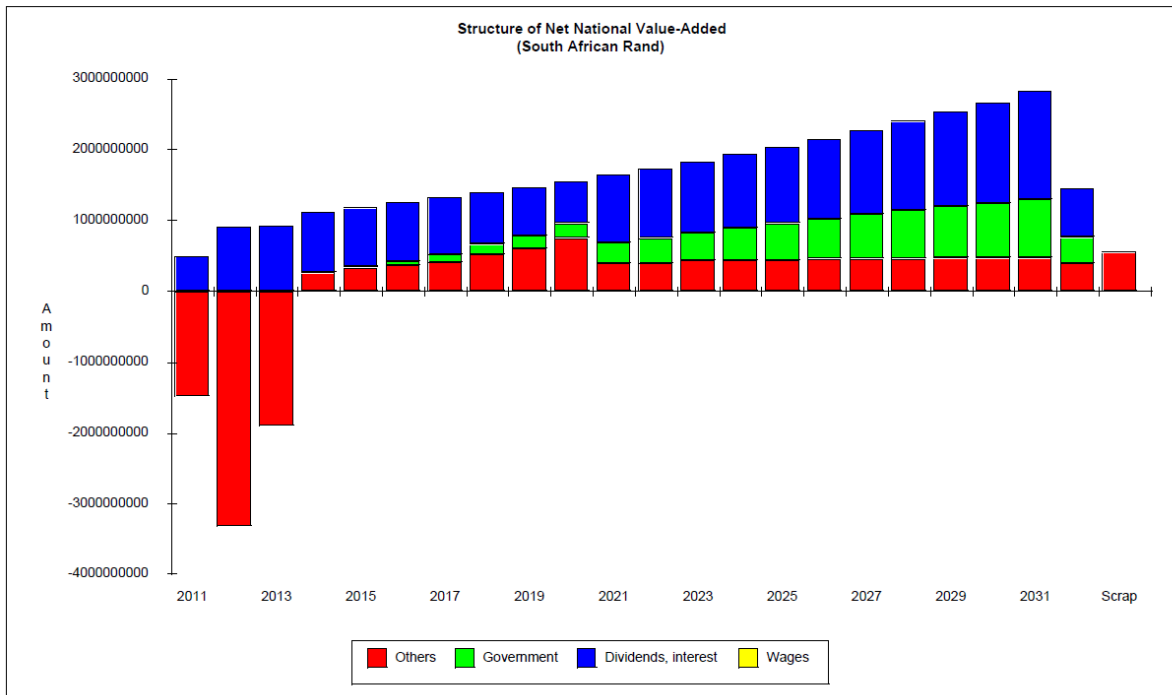
VALUE-ADDED CRITERIA						
South African Rand						
	2021	2022	2023	2024	2025	2026
Value of output (incl. tax)	1,641,362,000.00	1,732,457,000.00	1,828,609,000.00	1,935,172,000.00	2,037,217,000.00	2,150,282,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	1,641,362,000.00	1,732,457,000.00	1,828,609,000.00	1,935,172,000.00	2,037,217,000.00	2,150,282,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	1,641,362,000.00	1,732,457,000.00	1,828,609,000.00	1,935,172,000.00	2,037,217,000.00	2,150,282,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	1,641,362,000.00	1,732,457,000.00	1,828,609,000.00	1,935,172,000.00	2,037,217,000.00	2,150,282,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	58.44	57.31	54.85	54.05	53.31	52.70
Government to value-added	18.08	20.22	21.38	23.23	24.86	26.38
Others to value-added	23.48	22.47	23.77	22.72	21.83	20.93
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA						
South African Rand						
	2027	2028	2029	2030	2031	2032
Value of output (incl. tax)	2,269,623,000.00	2,401,887,000.00	2,528,542,000.00	2,668,876,000.00	2,816,999,000.00	1,462,582,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	2,269,623,000.00	2,401,887,000.00	2,528,542,000.00	2,668,876,000.00	2,816,999,000.00	1,462,582,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	2,269,623,000.00	2,401,887,000.00	2,528,542,000.00	2,668,876,000.00	2,816,999,000.00	1,462,582,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	2,269,623,000.00	2,401,887,000.00	2,528,542,000.00	2,668,876,000.00	2,816,999,000.00	1,462,582,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	52.17	52.36	52.85	53.33	53.78	47.64
Government to value-added	27.76	28.44	28.71	28.97	29.21	25.88
Others to value-added	20.07	19.20	18.44	17.70	17.00	26.48
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA	
South African Rand	
	Scrap 2033
Value of output (incl. tax)	560,441,456.62
Material input	0.00
GROSS DOMESTIC VALUE-ADDED	560,441,456.62
Investment	0.00
NET DOMESTIC VALUE-ADDED	560,441,456.62
Repatriated payment	0.00
NET NATIONAL VALUE-ADDED	560,441,456.62
Distribution of value-added (%)	
Wages to value-added	0.00
Dividends, interest to value-added	0.00
Government to value-added	0.00
Others to value-added	100.00
Absolute efficiency test	
PV (NNVA) to PV (wages)	
Relative efficiency test	
PV (NNVA) to PV (investment)	
PV (NNVA) to PV (foreign exchange)	
PV (NNVA) to PV (skilled labour)	
PV (NNVA) to PV (labour)	



	Net national value-added	Repatriated payment	Investment	Material input
2011	-986,848,000.00	0.00	986,848,000.00	0.00
2012	-2,384,860,000.00	0.00	2,503,972,000.00	0.00
2013	-957,887,000.00	0.00	1,525,598,000.00	0.00
2014	1,124,596,000.00	0.00	0.00	0.00
2015	1,187,011,000.00	0.00	0.00	0.00
2016	1,256,185,000.00	0.00	0.00	0.00
2017	1,322,426,000.00	0.00	0.00	0.00
2018	1,395,821,000.00	0.00	0.00	0.00
2019	1,473,289,000.00	0.00	0.00	0.00
2020	1,559,146,000.00	0.00	0.00	0.00
2021	1,641,362,000.00	0.00	0.00	0.00
2022	1,732,457,000.00	0.00	0.00	0.00
2023	1,828,609,000.00	0.00	0.00	0.00
2024	1,935,172,000.00	0.00	0.00	0.00
2025	2,037,217,000.00	0.00	0.00	0.00
2026	2,150,282,000.00	0.00	0.00	0.00
2027	2,269,623,000.00	0.00	0.00	0.00
2028	2,401,887,000.00	0.00	0.00	0.00
2029	2,528,542,000.00	0.00	0.00	0.00
2030	2,668,876,000.00	0.00	0.00	0.00
2031	2,816,999,000.00	0.00	0.00	0.00
2032	1,462,582,000.00	0.00	0.00	0.00
Scrap	560,441,456.62	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
2011	-1,471,009,556.62	0.00	484,161,556.62	0.00
2012	-3,300,442,764.66	0.00	915,582,764.66	0.00
2013	-1,888,892,285.44	0.00	931,005,285.44	0.00
2014	258,356,299.64	0.00	866,239,700.36	0.00
2015	323,534,238.73	24,004,123.75	839,472,637.53	0.00
2016	356,729,145.97	68,110,330.97	831,345,523.06	0.00
2017	410,135,473.28	108,249,984.18	804,040,542.53	0.00
2018	529,407,518.23	130,347,369.63	736,066,112.14	0.00
2019	600,794,560.24	172,386,335.38	700,108,104.38	0.00
2020	749,434,914.94	209,598,465.85	600,112,619.21	0.00
2021	385,312,650.00	296,795,398.29	959,253,951.71	0.00
2022	389,325,650.00	350,245,748.24	992,885,601.76	0.00
2023	434,679,650.00	390,924,130.19	1,003,005,219.81	0.00
2024	439,652,650.00	449,481,296.13	1,046,038,053.87	0.00
2025	444,677,650.00	506,429,822.08	1,086,109,527.92	0.00
2026	449,994,650.00	567,154,604.02	1,133,132,745.98	0.00
2027	455,538,650.00	630,008,633.97	1,184,075,716.03	0.00
2028	461,156,650.00	683,137,083.20	1,257,593,266.80	0.00
2029	466,273,650.00	725,918,459.20	1,336,349,890.80	0.00
2030	472,511,650.00	773,120,251.20	1,423,244,098.80	0.00
2031	479,025,650.00	822,966,619.20	1,515,006,730.80	0.00
2032	387,334,500.00	378,487,120.00	696,760,380.00	0.00
Scrap	560,441,456.62	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	Present value	Grand total	2011	2012	2013	2014
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	2,393,625,584.33	2,662,802,100.00	887,600,700.00	887,600,700.00	887,600,700.00	0.00
NET FOREIGN INDIRECT EFFECTS	-2,393,625,584.33	-2,662,802,100.00	-887,600,700.00	-887,600,700.00	-887,600,700.00	0.00
NET FOREIGN EXCHANGE EFFECTS	-2,393,625,584.33	-2,662,802,100.00	-887,600,700.00	-887,600,700.00	-887,600,700.00	0.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	2015	2016	2017	2018	2019	2020
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	2021	2022	2023	2024	2025	2026
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	2027	2028	2029	2030	2031	2032
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS	
South African Rand	
	Scrap 2033
TOTAL FOREIGN EXCHANGE INFLOW	0.00
Equity share	0.00
Loans	0.00
Subsidies, grants	0.00
Export of products	0.00
Other income	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00
Fixed investments	0.00
Material input	0.00
Debt service	0.00
Wages	0.00
Equity capital refund	0.00
Dividends transfer	0.00
Others	0.00
NET FOREIGN EXCHANGE FLOW	0.00
Indirect foreign exchange inflows	0.00
Indirect foreign exchange outflows	0.00
NET FOREIGN INDIRECT EFFECTS	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	450.00	450.00	6,188,779,377.26	0.00	0.00	0.00
Indirect employment	20.00	10.00	30.00	0.00	0.00	0.00	0.00
Total employment	20.00	460.00	480.00	6,188,779,377.26	0.00	0.00	0.00

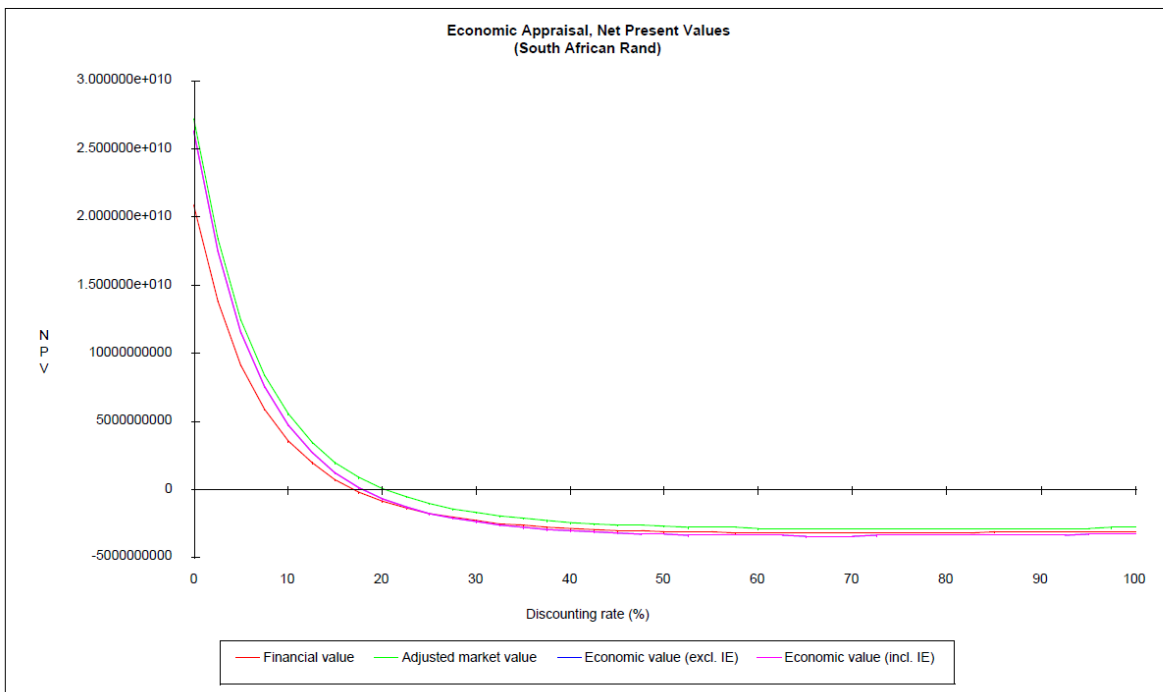
EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	0.00	0.00	0.00

ECONOMIC APPRAISAL
South African Rand

	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	10,134,641,750.12	1.00	10,134,641,750.12	0.00	0.00	10,134,641,750.12	0.00
Inflow operation	10,078,245,184.68	1.00	10,078,245,184.68	0.00	0.00	10,078,245,184.68	0.00
Other income	56,396,565.44	1.00	56,396,565.44	0.00	0.00	56,396,565.44	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	7,691,802,020.50	0.79	6,040,517,281.44	66.31	801,310,324.09	6,841,827,605.53	0.00
Increase in fixed assets	5,537,691,099.58	0.92	5,092,625,517.32	78.65	801,310,324.09	5,893,935,841.41	0.00
Increase in net working capital	9,548,321.66	1.00	9,548,321.66	0.00	0.00	9,548,321.66	0.00
Operating costs	938,343,442.47	1.00	938,343,442.47	0.00	0.00	938,343,442.47	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	1,206,219,156.80	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	2,442,839,729.62	1.68	4,094,124,468.68	-97.84	-801,310,324.09	3,292,814,144.59	0.00
INTERNAL RATE OF RETURN	17.10	---	20.37	---	---	17.96	---
BENEFIT-COST RATIO	1.32	---	1.68	---	---	1.48	---

ECONOMIC APPRAISAL
South African Rand

	Economic value (incl. IE)
TOTAL CASH INFLOW	10,134,641,750.12
Inflow operation	10,078,245,184.68
Other income	56,396,565.44
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	6,841,827,605.53
Increase in fixed assets	5,893,935,841.41
Increase in net working capital	9,548,321.66
Operating costs	938,343,442.47
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	3,292,814,144.59
INTERNAL RATE OF RETURN	17.96
BENEFIT-COST RATIO	1.48



Discounting rate (%)	Financial value	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	20,813,307,955.01	27,182,569,379.37	26,279,509,948.44	26,279,509,948.44
10.00 %	3,619,120,507.49	5,552,833,367.35	4,738,428,473.72	4,738,428,473.72
20.00 %	-800,563,827.19	103,807,083.24	-640,187,129.67	-640,187,129.67
30.00 %	-2,266,041,919.64	-1,682,066,795.57	-2,368,945,296.64	-2,368,945,296.64
40.00 %	-2,832,796,620.76	-2,379,149,364.46	-3,018,868,202.20	-3,018,868,202.20
50.00 %	-3,062,207,916.38	-2,675,012,375.68	-3,275,201,012.15	-3,275,201,012.15
60.00 %	-3,145,058,805.33	-2,798,166,865.59	-3,364,788,426.95	-3,364,788,426.95
70.00 %	-3,158,040,237.59	-2,838,803,244.52	-3,376,598,821.35	-3,376,598,821.35
80.00 %	-3,136,007,163.74	-2,837,411,253.91	-3,350,207,084.75	-3,350,207,084.75
90.00 %	-3,096,243,409.33	-2,813,954,589.79	-3,304,879,526.55	-3,304,879,526.55
100.00 %	-3,047,852,948.96	-2,778,959,165.11	-3,250,601,866.73	-3,250,601,866.73

Project 4

SUMMARY SHEET

Project title:	Project 4 - BPH
Project description:	The project entails the establishment of a 100 bed hospital facility in Gauteng.
Date and time:	
Project classification:	New project
Construction phase:	3/2013 - 12/2013
Length:	10 months
Production phase:	1/2014 - 2/2022
Length:	9 years
Accounting currency:	South African Rand (ZAR)
Units:	Absolute
Local currency:	South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	163,604,000.00	0.00	163,604,000.00
Total pre-production expenditures	12,494,734.11	7,286,663.50	19,781,397.61
<i>Pre-production expenditures (net of interest)</i>	<i>4,858,000.00</i>	<i>0.00</i>	<i>4,858,000.00</i>
<i>Interest</i>	<i>7,636,734.11</i>	<i>7,286,663.50</i>	<i>14,923,397.61</i>
Increase in net working capital	0.00	10,897,886.47	10,897,886.47
TOTAL INVESTMENT COSTS	176,098,734.11	18,184,549.97	194,283,284.08

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	53,000,000.00	0.00	53,000,000.00
<i>Foreign</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Local</i>	<i>53,000,000.00</i>	<i>0.00</i>	<i>53,000,000.00</i>
Total long-term loans	107,444,649.24	4,745,166.31	112,189,815.55
<i>Foreign</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Local</i>	<i>107,444,649.24</i>	<i>4,745,166.31</i>	<i>112,189,815.55</i>
Total short-term loans	26,789,457.17	24,683,497.18	51,472,954.36
<i>Foreign</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Local</i>	<i>26,789,457.17</i>	<i>24,683,497.18</i>	<i>51,472,954.36</i>
Accounts payable	0.00	3,738,069.44	3,738,069.44
TOTAL SOURCES OF FINANCE	187,234,106.41	33,166,732.94	220,400,839.35

INCOME AND COSTS, OPERATIONS

	First year 1/2014-2/2014	Reference year 1/2014-2/2014	Last year 3/2021-2/2022
SALES REVENUE	0.00	0.00	172,171,000.00
Factory costs	0.00	0.00	108,543,020.00
Administrative overhead costs	0.00	0.00	3,681,000.00
OPERATING COSTS	0.00	0.00	112,224,020.00
Depreciation	2,067,036.67	2,067,036.67	6,403,420.00
Financial costs	0.00	0.00	4,783,995.34
TOTAL PRODUCTION COSTS	2,067,036.67	2,067,036.67	123,411,435.34
Marketing costs	0.00	0.00	775,000.00
COSTS OF PRODUCTS	2,067,036.67	2,067,036.67	124,186,435.34
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-2,067,036.67	-2,067,036.67	47,984,564.66
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-2,067,036.67	-2,067,036.67	47,984,564.66

SUMMARY SHEET

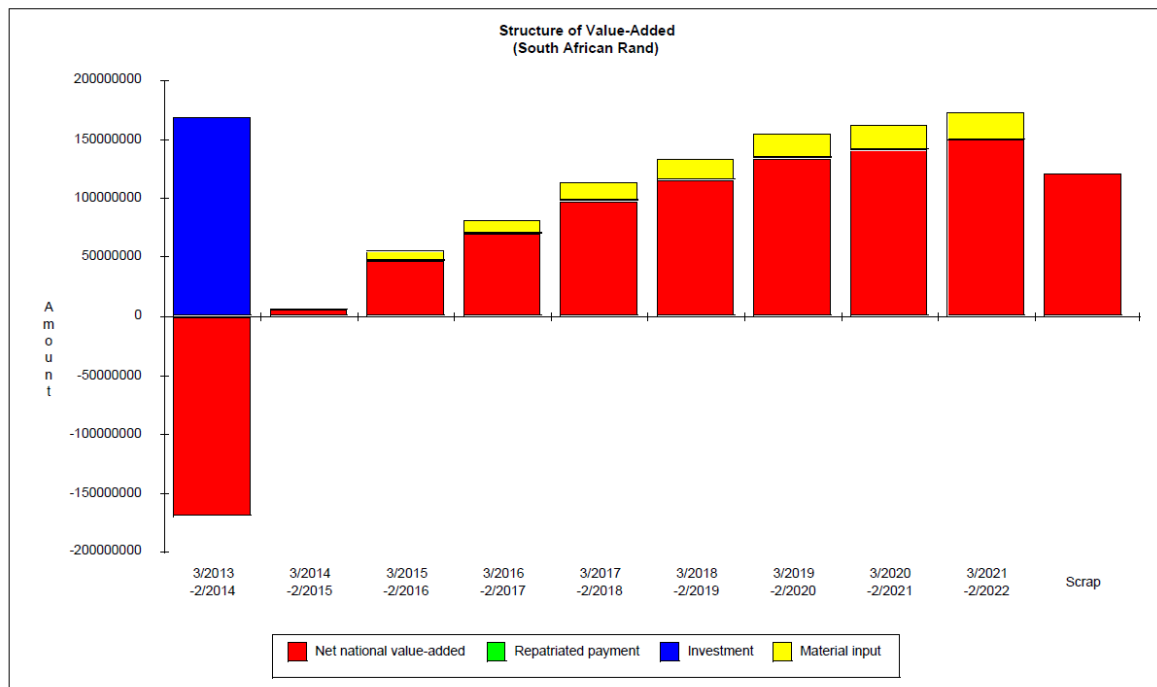
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	47,984,564.66
Income (corporate) tax	0.00	0.00	13,435,678.10
NET PROFIT	-2,067,036.67	-2,067,036.67	34,548,886.55

RATIOS

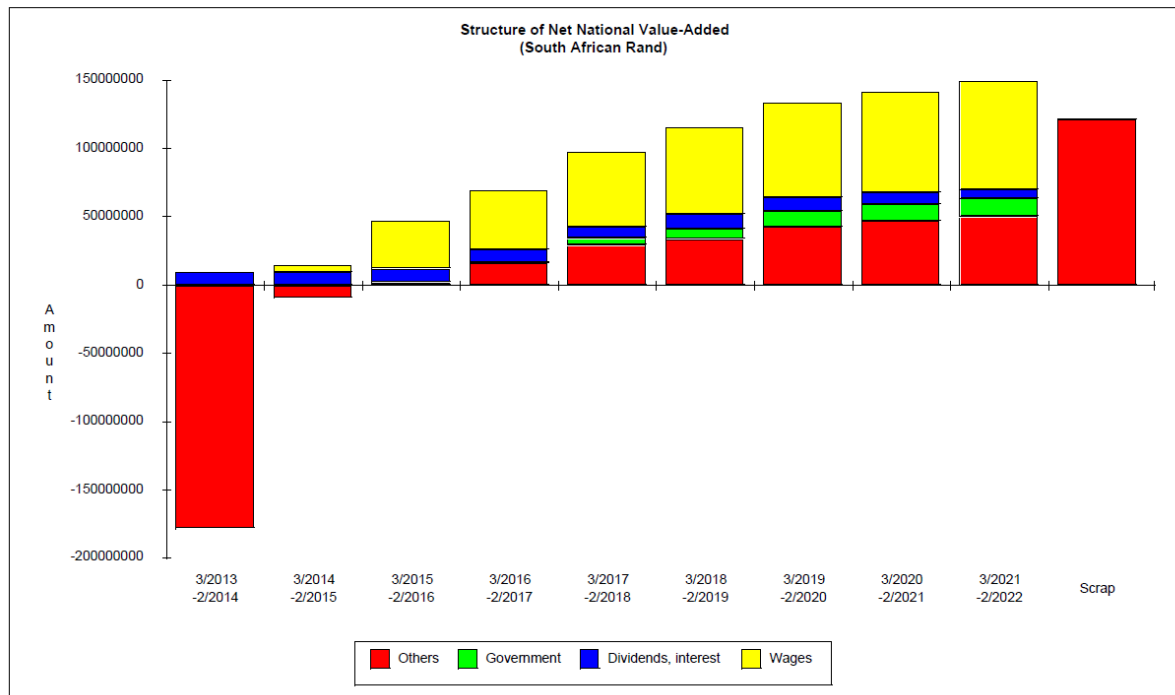
Net Present Value of Total Capital Invested	at 5.40%	53,958,283.15
Internal rate of return on investment (IRR)	9.66%	
Modified IRR on investment	9.66%	
Net Present Value of Total Equity Capital Invested	at 5.40%	47,172,974.79
Internal rate of return on equity (IRRE)	15.39%	
Modified IRRE on equity	15.39%	
Net present values discounted to	2/2014	

VALUE-ADDED CRITERIA							
South African Rand							
	Present value	Grand total	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016	3/2016 -2/2017	3/2017 -2/2018
Value of output (incl. tax)	532,705,640.00	999,016,002.71	0.00	6,651,000.00	54,764,000.00	81,081,000.00	113,207,000.00
Material input	63,901,270.15	116,175,000.00	0.00	896,000.00	7,197,000.00	10,784,000.00	15,064,000.00
GROSS DOMESTIC VALUE-ADDED	468,804,369.85	882,841,002.71	0.00	5,755,000.00	47,567,000.00	70,297,000.00	98,143,000.00
Investment	171,610,654.02	173,210,541.67	168,462,000.00	186,666.67	1,312,708.33	747,291.67	891,666.67
NET DOMESTIC VALUE-ADDED	297,193,715.83	709,630,461.04	-168,462,000.00	5,568,333.33	46,254,291.67	69,549,708.33	97,251,333.33
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	297,193,715.83	709,630,461.04	-168,462,000.00	5,568,333.33	46,254,291.67	69,549,708.33	97,251,333.33
Distribution of value-added (%)							
Wages to value-added	79.80	59.57	0.00	90.91	74.98	62.86	56.22
Dividends, interest to value-added	18.56	11.49	-5.37	164.97	21.88	13.33	8.29
Government to value-added	8.53	7.17	0.00	0.00	0.00	0.60	5.42
Others to value-added	-6.88	21.76	105.37	-155.87	3.15	23.21	30.07
Absolute efficiency test							
PV (NNVA) to PV (wages)	1.25						
Relative efficiency test							
PV (NNVA) to PV (investment)	1.73						
PV (NNVA) to PV (foreign exchange)	0.00						
PV (NNVA) to PV (skilled labour)	1.25						
PV (NNVA) to PV (labour)	1.25						

VALUE-ADDED CRITERIA					
South African Rand					
	3/2018 -2/2019	3/2019 -2/2020	3/2020 -2/2021	3/2021 -2/2022	Scrap 3/2022-2/2023
Value of output (incl. tax)	133,193,000.00	154,253,000.00	162,274,000.00	172,171,000.00	121,422,002.71
Material input	17,706,000.00	20,246,000.00	21,489,000.00	22,793,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	115,487,000.00	134,007,000.00	140,785,000.00	149,378,000.00	121,422,002.71
Investment	550,416.67	529,166.67	258,958.33	271,666.67	0.00
NET DOMESTIC VALUE-ADDED	114,936,583.33	133,477,833.33	140,526,041.67	149,106,333.33	121,422,002.71
Repatriated payment	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	114,936,583.33	133,477,833.33	140,526,041.67	149,106,333.33	121,422,002.71
Distribution of value-added (%)					
Wages to value-added	55.06	52.05	52.01	52.81	0.00
Dividends, interest to value-added	9.39	7.29	5.71	4.67	0.30
Government to value-added	6.45	8.60	9.01	9.17	0.00
Others to value-added	29.09	32.07	33.27	33.35	99.70
Absolute efficiency test					
PV (NNVA) to PV (wages)					
Relative efficiency test					
PV (NNVA) to PV (investment)					
PV (NNVA) to PV (foreign exchange)					
PV (NNVA) to PV (skilled labour)					
PV (NNVA) to PV (labour)					



	Net national value-added	Repatriated payment	Investment	Material input
3/2013-2/2014	-168,462,000.00	0.00	168,462,000.00	0.00
3/2014-2/2015	5,568,333.33	0.00	186,666.67	896,000.00
3/2015-2/2016	46,254,291.67	0.00	1,312,708.33	7,197,000.00
3/2016-2/2017	69,549,708.33	0.00	747,291.67	10,784,000.00
3/2017-2/2018	97,251,333.33	0.00	891,666.67	15,064,000.00
3/2018-2/2019	114,936,583.33	0.00	550,416.67	17,706,000.00
3/2019-2/2020	133,477,833.33	0.00	529,166.67	20,246,000.00
3/2020-2/2021	140,526,041.67	0.00	258,958.33	21,489,000.00
3/2021-2/2022	149,106,333.33	0.00	271,666.67	22,793,000.00
Scrap	121,422,002.71	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
3/2013-2/2014	-177,512,003.06	0.00	9,050,003.06	0.00
3/2014-2/2015	-8,679,632.44	0.00	9,185,985.77	5,061,980.00
3/2015-2/2016	1,456,199.69	0.00	10,118,911.98	34,679,180.00
3/2016-2/2017	16,139,106.67	415,013.80	9,273,547.87	43,722,040.00
3/2017-2/2018	29,243,566.41	5,272,560.64	8,064,226.28	54,670,980.00
3/2018-2/2019	33,439,388.17	7,417,662.48	10,790,532.68	63,289,000.00
3/2019-2/2020	42,806,751.81	11,473,323.74	9,724,637.79	69,473,120.00
3/2020-2/2021	46,759,346.88	12,659,881.84	8,020,652.95	73,086,160.00
3/2021-2/2022	49,721,217.83	13,677,520.31	6,960,575.20	78,747,020.00
Scrap	121,056,347.01	0.00	365,655.70	0.00

NET FOREIGN EXCHANGE EFFECTS					
South African Rand					
	3/2018-2/2019	3/2019-2/2020	3/2020-2/2021	3/2021-2/2022	Scrap 3/2022-2/2023
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00	0.00	0.00	0.00

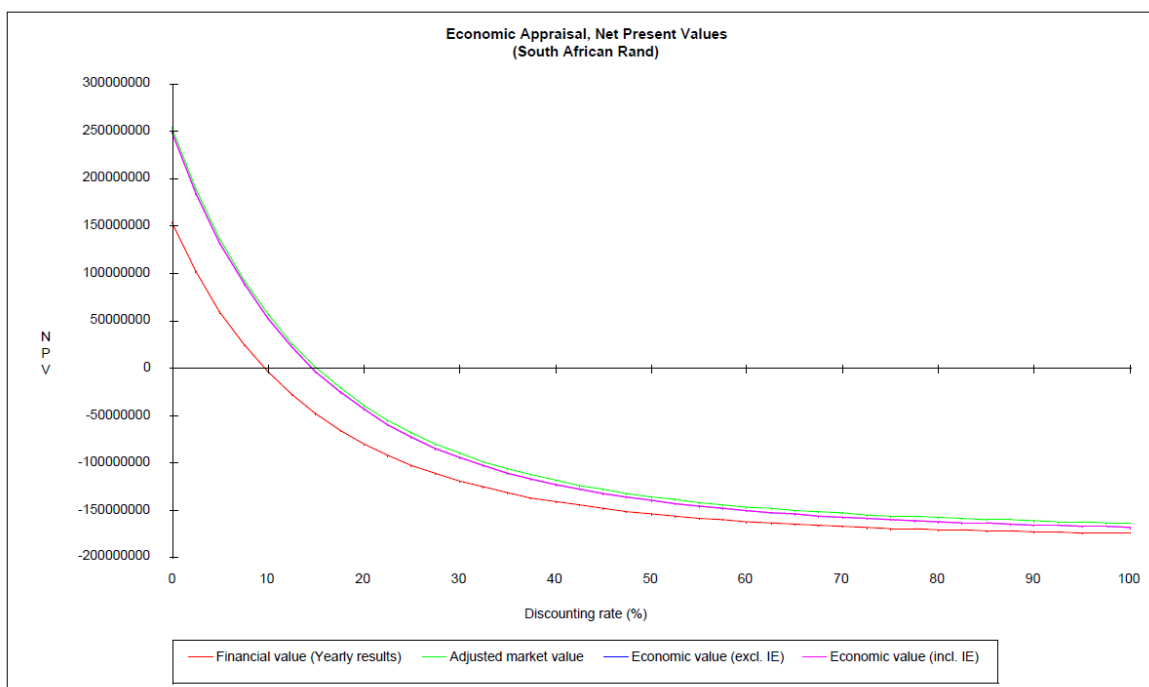
NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016	3/2016 -2/2017	3/2017 -2/2018
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	16,661,840.00	16,661,840.00	16,661,840.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	-16,661,840.00	-16,661,840.00	-16,661,840.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	-16,661,840.00	-16,661,840.00	-16,661,840.00	0.00	0.00	0.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	194,283,284.08	0.00	0.00	0.00
Indirect employment	190.00	190.00	380.00	0.00	0.00	0.00	0.00
Total employment	190.00	190.00	380.00	194,283,284.08	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	4.93	4.93	4.93

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	535,243,124.87	1.00	535,243,124.87	0.00	0.00	535,243,124.87	0.00
Inflow operation	482,601,685.21	1.00	482,601,685.21	0.00	0.00	482,601,685.21	0.00
Other income	52,641,439.66	1.00	52,641,439.66	0.00	0.00	52,641,439.66	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	555,713,124.97	0.90	499,465,307.41	4.38	4,380,411.09	503,845,718.50	0.00
Increase in fixed assets	182,744,185.49	0.96	175,130,985.49	12.50	4,380,411.09	179,511,396.58	0.00
Increase in net working capital	7,322,520.66	1.00	7,322,520.66	0.00	0.00	7,322,520.66	0.00
Operating costs	338,419,802.31	0.93	314,703,401.05	0.00	0.00	314,703,401.05	0.00
Marketing costs	2,308,400.20	1.00	2,308,400.20	0.00	0.00	2,308,400.20	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	24,918,216.30	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	-20,470,000.10	-1.75	35,777,817.46	-61.20	-4,380,411.09	31,397,406.37	0.00
INTERNAL RATE OF RETURN	9.66	---	15.11	---	---	14.65	---
BENEFIT-COST RATIO	0.96	---	1.07	---	---	1.06	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	535,243,124.87
Inflow operation	482,601,685.21
Other income	52,641,439.66
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	503,845,718.50
Increase in fixed assets	179,511,396.58
Increase in net working capital	7,322,520.66
Operating costs	314,703,401.05
Marketing costs	2,308,400.20
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	31,397,406.37
INTERNAL RATE OF RETURN	14.65
BENEFIT-COST RATIO	1.06



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	153,329,359.56	253,266,731.44	248,886,320.35	248,886,320.35
10.00 %	-3,634,590.01	57,009,232.75	52,628,821.66	52,628,821.66
20.00 %	-79,355,753.16	-38,947,758.01	-43,328,169.10	-43,328,169.10
30.00 %	-118,810,002.62	-89,631,539.32	-94,011,950.41	-94,011,950.41
40.00 %	-140,751,484.74	-118,209,570.62	-122,589,981.71	-122,589,981.71
50.00 %	-153,649,406.21	-135,245,464.93	-139,625,876.02	-139,625,876.02
60.00 %	-161,598,972.59	-145,896,386.42	-150,276,797.50	-150,276,797.50
70.00 %	-166,701,306.88	-152,833,519.71	-157,213,930.80	-157,213,930.80
80.00 %	-170,091,808.48	-157,513,834.02	-161,894,245.11	-161,894,245.11
90.00 %	-172,412,700.63	-160,769,008.84	-165,149,419.93	-165,149,419.93
100.00 %	-174,042,248.35	-163,093,294.44	-167,473,705.52	-167,473,705.52

Project 5

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 5 - CAM
 Project description: Establishment of a motor vehicle manufacturing plants in Gauteng and Eastern Cape
 Date and time:

Project classification: New project

Construction phase: 3/2012 - 11/2012
 Length: 9 months
 Production phase: 12/2012 - 2/2020
 Length: 8 years

Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	53,098,000.00	32,392,000.00	85,490,000.00
Total pre-production expenditures	23,185,112.50	0.00	23,185,112.50
<i>Pre-production expenditures (net of interest)</i>	21,752,000.00	0.00	21,752,000.00
<i>Interest</i>	1,433,112.50	0.00	1,433,112.50
Increase in net working capital	0.00	-14,671,179.50	-14,671,179.50
TOTAL INVESTMENT COSTS	76,283,112.50	17,720,820.50	94,003,933.00

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	93,448,000.00	0.00	93,448,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	93,448,000.00	0.00	93,448,000.00
Total long-term loans	52,553,000.00	0.00	52,553,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	52,553,000.00	0.00	52,553,000.00
Total short-term loans	0.00	50,000,000.00	50,000,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	50,000,000.00	50,000,000.00
Accounts payable	0.00	476,058,444.44	476,058,444.44
TOTAL SOURCES OF FINANCE	146,001,000.00	526,058,444.44	672,059,444.44

INCOME AND COSTS, OPERATIONS

	First year 12/2012-2/2013	Reference year 12/2012-2/2013	Last year 3/2019-2/2020
SALES REVENUE	0.00	0.00	2,753,684,752.00
Factory costs	0.00	0.00	2,020,943,923.00
Administrative overhead costs	0.00	0.00	8,492,000.00
OPERATING COSTS	0.00	0.00	2,029,435,923.00
Depreciation	6,092,625.00	6,092,625.00	4,342,060.00
Financial costs	1,428,853.75	1,428,853.75	0.00
TOTAL PRODUCTION COSTS	7,521,478.75	7,521,478.75	2,033,777,983.00
Marketing costs	0.00	0.00	551,386,000.00
COSTS OF PRODUCTS	7,521,478.75	7,521,478.75	2,585,163,983.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-7,521,478.75	-7,521,478.75	168,520,769.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-7,521,478.75	-7,521,478.75	168,520,769.00

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	168,520,769.00
Income (corporate) tax	0.00	0.00	47,185,815.32
NET PROFIT	-7,521,478.75	-7,521,478.75	121,334,953.68

RATIOS

Net Present Value of Total Capital Invested	at 5.00%	246,172,090.54
Internal rate of return on investment (IRR)	29.74%	
Modified IRR on investment	29.74%	
Net Present Value of Total Equity Capital Invested	at 5.00%	244,496,117.48
Internal rate of return on equity (IRRE)	46.34%	
Modified IRRE on equity	46.34%	
Net present values discounted to	11/2012	

VALUE-ADDED CRITERIA

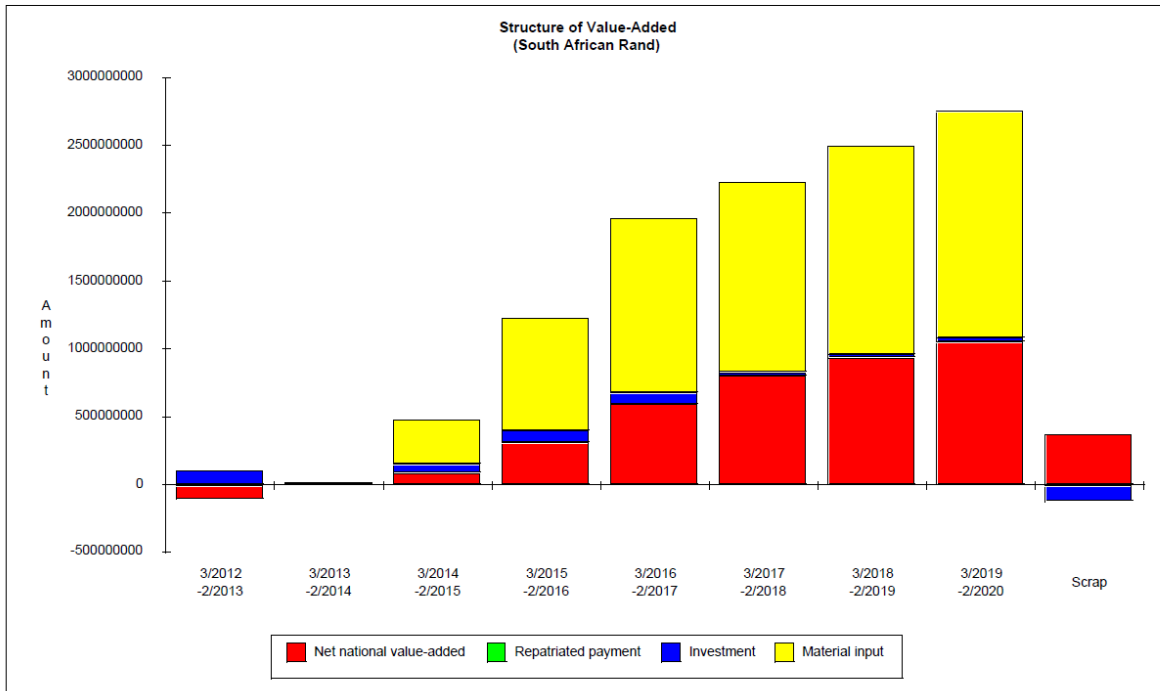
South African Rand

	Present value	Grand total	3/2012 -2/2013	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016
Value of output (incl. tax)	6,297,993,314.82	11,390,383,168.56	0.00	14,118,978.00	471,537,900.00	1,224,582,300.00
Material input	3,937,651,302.88	7,045,694,000.00	0.00	9,711,000.00	323,718,000.00	821,584,000.00
GROSS DOMESTIC VALUE-ADDED	2,360,342,011.94	4,344,689,168.56	0.00	4,407,978.00	147,819,900.00	402,998,300.00
Investment	260,229,412.94	312,503,829.06	103,728,000.00	6,819,722.22	64,118,555.56	90,811,227.78
NET DOMESTIC VALUE-ADDED	2,100,112,599.00	4,032,185,339.50	-103,728,000.00	-2,411,744.22	83,701,344.44	312,187,072.22
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	2,100,112,599.00	4,032,185,339.50	-103,728,000.00	-2,411,744.22	83,701,344.44	312,187,072.22
Distribution of value-added (%)						
Wages to value-added	16.07	14.44	0.00	-363.55	73.43	23.10
Dividends, interest to value-added	0.65	0.42	-2.76	-223.86	5.69	0.90
Government to value-added	4.35	4.21	0.00	0.00	0.00	4.02
Others to value-added	78.93	80.93	102.76	687.41	20.88	71.98
Absolute efficiency test						
PV (NNVA) to PV (wages)	6.22					
Relative efficiency test						
PV (NNVA) to PV (investment)	8.07					
PV (NNVA) to PV (foreign exchange)	0.00					
PV (NNVA) to PV (skilled labour)	6.22					
PV (NNVA) to PV (labour)	6.22					

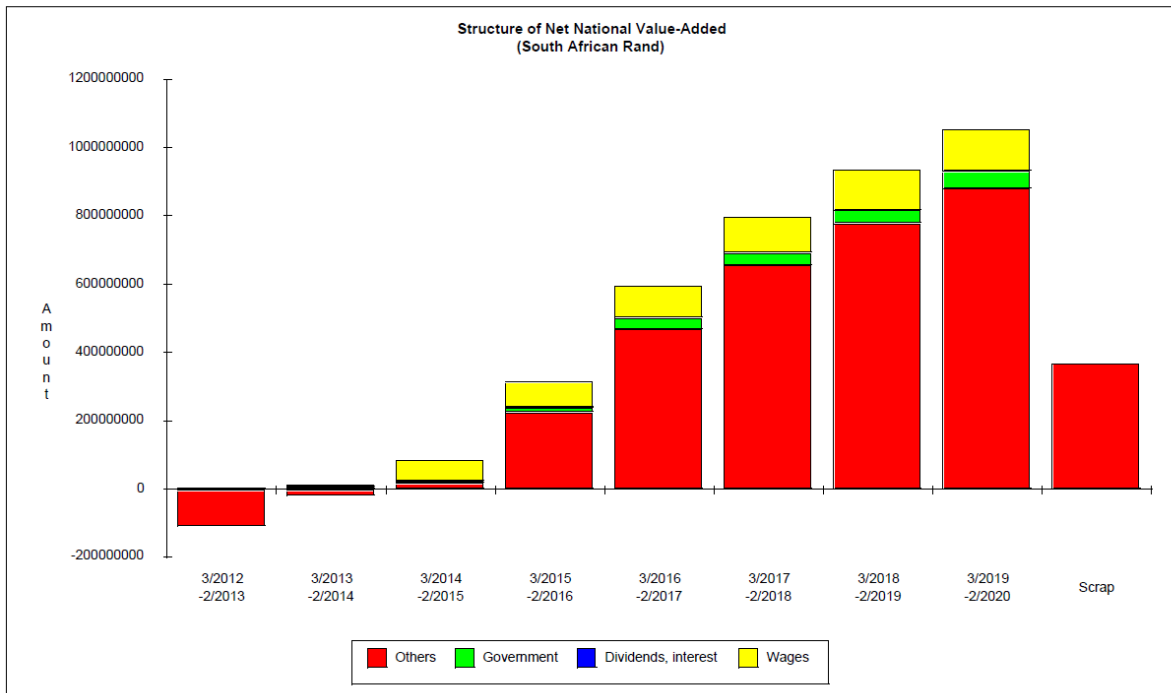
VALUE-ADDED CRITERIA

South African Rand

	3/2016 -2/2017	3/2017 -2/2018	3/2018 -2/2019	3/2019 -2/2020	Scrap 3/2020-2/2021
Value of output (incl. tax)	1,958,211,400.00	2,225,294,032.00	2,489,029,160.00	2,753,684,752.00	253,924,646.56
Material input	1,280,874,000.00	1,403,403,000.00	1,532,635,000.00	1,673,769,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	677,337,400.00	821,891,032.00	956,394,160.00	1,079,915,752.00	253,924,646.56
Investment	85,067,807.78	23,875,508.44	24,260,639.11	26,568,808.33	-112,746,440.17
NET DOMESTIC VALUE-ADDED	592,269,592.22	798,015,523.56	932,133,520.89	1,053,346,943.67	366,671,086.72
Repatriated payment	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	592,269,592.22	798,015,523.56	932,133,520.89	1,053,346,943.67	366,671,086.72
Distribution of value-added (%)					
Wages to value-added	15.58	13.49	12.38	11.82	0.00
Dividends, interest to value-added	0.15	0.00	0.00	0.00	0.00
Government to value-added	5.59	4.50	4.42	4.48	0.00
Others to value-added	78.68	82.00	83.20	83.70	100.00
Absolute efficiency test					
PV (NNVA) to PV (wages)					
Relative efficiency test					
PV (NNVA) to PV (investment)					
PV (NNVA) to PV (foreign exchange)					
PV (NNVA) to PV (skilled labour)					
PV (NNVA) to PV (labour)					



	Net national value-added	Repatriated payment	Investment	Material input
3/2012-2/2013	-103,728,000.00	0.00	103,728,000.00	0.00
3/2013-2/2014	-2,411,744.22	0.00	6,819,722.22	9,711,000.00
3/2014-2/2015	83,701,344.44	0.00	64,118,555.56	323,718,000.00
3/2015-2/2016	312,187,072.22	0.00	90,811,227.78	821,584,000.00
3/2016-2/2017	592,269,592.22	0.00	85,067,807.78	1,280,874,000.00
3/2017-2/2018	798,015,523.56	0.00	23,875,508.44	1,403,403,000.00
3/2018-2/2019	932,133,520.89	0.00	24,260,639.11	1,532,635,000.00
3/2019-2/2020	1,053,346,943.67	0.00	26,568,808.33	1,673,769,000.00
Scrap	366,671,086.72	0.00	-112,746,440.17	0.00



	Others	Government	Dividends, interest	Wages
3/2012-2/2013	-106,589,966.25	0.00	2,861,966.25	0.00
3/2013-2/2014	-16,578,685.82	0.00	5,398,941.60	8,768,000.00
3/2014-2/2015	17,476,767.14	0.00	4,762,577.31	61,462,000.00
3/2015-2/2016	224,712,508.79	12,541,255.70	2,825,257.73	72,108,050.00
3/2016-2/2017	466,001,943.16	33,089,890.92	887,938.14	92,289,820.00
3/2017-2/2018	654,402,060.28	35,938,567.28	0.00	107,674,896.00
3/2018-2/2019	775,543,506.33	41,172,866.56	0.00	115,417,148.00
3/2019-2/2020	881,610,205.35	47,185,815.32	0.00	124,550,923.00
Scrap	366,671,086.72	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	3/2012 -2/2013	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016	3/2016 -2/2017
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	4,813,449,648.12	8,513,171,343.00	0.00	14,118,978.00	443,603,025.00	1,087,542,900.00	1,640,854,200.00
Indirect foreign exchange outflows	57,248,546.73	82,224,480.00	12,942,570.00	11,015,910.00	9,711,000.00	9,711,000.00	9,711,000.00
NET FOREIGN INDIRECT EFFECTS	4,756,201,101.39	8,430,946,863.00	-12,942,570.00	3,103,068.00	433,892,025.00	1,077,831,900.00	1,631,143,200.00
NET FOREIGN EXCHANGE EFFECTS	4,756,201,101.39	8,430,946,863.00	-12,942,570.00	3,103,068.00	433,892,025.00	1,077,831,900.00	1,631,143,200.00

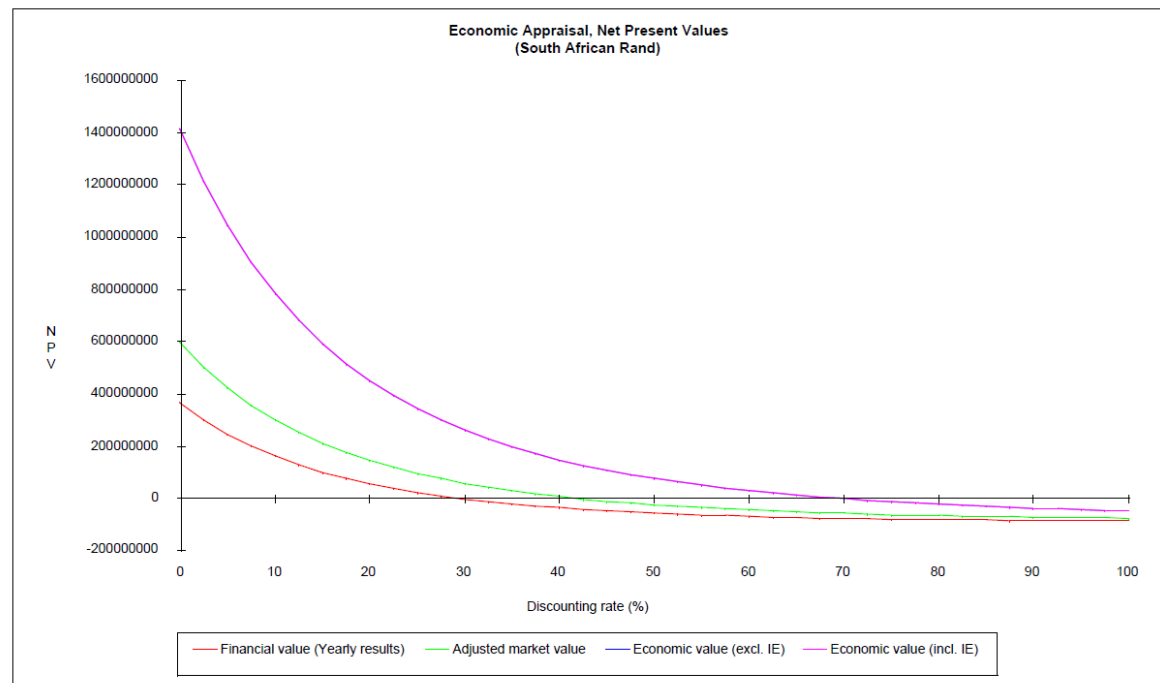
NET FOREIGN EXCHANGE EFFECTS				
South African Rand				
	3/2017 -2/2018	3/2018 -2/2019	3/2019 -2/2020	Scrap 3/2020-2/2021
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	1,706,488,368.00	1,774,793,694.00	1,845,770,178.00	0.00
Indirect foreign exchange outflows	9,711,000.00	9,711,000.00	9,711,000.00	0.00
NET FOREIGN INDIRECT EFFECTS	1,696,777,368.00	1,765,082,694.00	1,836,059,178.00	0.00
NET FOREIGN EXCHANGE EFFECTS	1,696,777,368.00	1,765,082,694.00	1,836,059,178.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	94,003,933.00	0.00	0.00	0.00
Indirect employment	50.00	50.00	100.00	0.00	0.00	0.00	0.00
Total employment	50.00	50.00	100.00	94,003,933.00	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	21.44	21.44	21.44

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	6,199,386,958.75	1.00	6,199,386,958.75	99.75	1,237,126,231.30	7,436,513,190.05	0.00
Inflow operation	6,184,146,901.87	1.00	6,184,146,901.87	100.00	1,237,126,231.30	7,421,273,133.17	0.00
Other income	15,240,056.88	1.00	15,240,056.88	0.00	0.00	15,240,056.88	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	6,059,862,739.98	0.98	5,931,644,124.66	66.70	791,486,800.90	6,723,130,925.56	0.00
Increase in fixed assets	105,352,146.83	0.97	102,184,402.32	18.43	3,767,525.50	105,951,927.82	0.00
Increase in net working capital	-11,499,889.97	1.00	-11,499,889.97	0.00	0.00	-11,499,889.97	0.00
Operating costs	4,848,049,349.42	0.99	4,814,306,960.35	81.79	787,719,275.40	5,602,026,235.75	0.00
Marketing costs	1,026,652,651.96	1.00	1,026,652,651.96	0.00	0.00	1,026,652,651.96	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	91,308,481.75	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	139,524,218.77	1.92	267,742,834.09	832.02	445,639,430.40	713,382,264.49	0.00
INTERNAL RATE OF RETURN	29.74	---	42.10	---	---	70.10	---
BENEFIT-COST RATIO	1.02	---	1.05	---	---	1.11	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	7,436,513,190.05
Inflow operation	7,421,273,133.17
Other income	15,240,056.88
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	6,723,130,925.56
Increase in fixed assets	105,951,927.82
Increase in net working capital	-11,499,889.97
Operating costs	5,602,026,235.75
Marketing costs	1,026,652,651.96
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	713,382,264.49
INTERNAL RATE OF RETURN	70.10
BENEFIT-COST RATIO	1.11



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	364,014,994.22	595,463,873.70	1,409,873,677.37	1,409,873,677.37
10.00 %	162,335,787.48	301,230,947.02	784,991,237.40	784,991,237.40
20.00 %	57,080,722.10	146,072,095.33	451,696,779.30	451,696,779.30
30.00 %	-1,155,436.86	59,096,407.17	262,197,184.11	262,197,184.11
40.00 %	-34,883,424.50	7,876,512.58	148,611,179.42	148,611,179.42
50.00 %	-55,108,771.72	-23,506,812.27	77,467,961.69	77,467,961.69
60.00 %	-67,541,833.49	-43,349,960.44	31,239,981.37	31,239,981.37
70.00 %	-75,299,547.52	-56,203,244.87	262,473.05	262,473.05
80.00 %	-80,158,942.55	-64,674,704.82	-21,037,193.02	-21,037,193.02
90.00 %	-83,171,943.78	-70,317,377.02	-35,999,794.24	-35,999,794.24
100.00 %	-84,981,881.45	-74,087,428.17	-46,697,798.43	-46,697,798.43

Project 6

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 6 - C Private Hospital
 Project description: Establishment of a 62 bed private hospital in Limpopo.
 Date and time:

Project classification: New project

Construction phase: 10/2010 - 6/2011

Length: 9 months

Production phase: 7/2011 - 9/2023

Length: 13 years

Accounting currency: South African Rand (ZAR)

Units: Absolute

Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	2,280,000.00	32,263,000.00	34,543,000.00
Total pre-production expenditures	0.00	9,545,294.10	9,545,294.10
<i>Pre-production expenditures (net of interest)</i>	0.00	2,535,000.00	2,535,000.00
<i>Interest</i>	0.00	7,010,294.10	7,010,294.10
Increase in net working capital	0.00	10,412,112.90	10,412,112.90
TOTAL INVESTMENT COSTS	2,280,000.00	52,220,407.01	54,500,407.01

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	2,280,000.00	33,000,000.00	35,280,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	2,280,000.00	33,000,000.00	35,280,000.00
Total long-term loans	0.00	56,020,100.05	56,020,100.05
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	56,020,100.05	56,020,100.05
Total short-term loans	0.00	10,192,194.05	10,192,194.05
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	10,192,194.05	10,192,194.05
Accounts payable	0.00	4,722,582.64	4,722,582.64
TOTAL SOURCES OF FINANCE	2,280,000.00	103,934,876.74	106,214,876.74

INCOME AND COSTS, OPERATIONS

	First year 7/2011-9/2011	Reference year 7/2011-9/2011	Last year 10/2022-9/2023
SALES REVENUE	0.00	0.00	138,503,000.00
Factory costs	0.00	0.00	86,477,031.00
Administrative overhead costs	0.00	0.00	2,892,000.00
OPERATING COSTS	0.00	0.00	89,369,031.00
Depreciation	39,900.00	39,900.00	1,582,910.00
Financial costs	662,122.94	662,122.94	151,721.10
TOTAL PRODUCTION COSTS	702,022.94	702,022.94	91,103,662.10
Marketing costs	0.00	0.00	4,100,000.00
COSTS OF PRODUCTS	702,022.94	702,022.94	95,203,662.10
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-702,022.94	-702,022.94	43,299,337.90
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-702,022.94	-702,022.94	43,299,337.90

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	43,299,337.90
Income (corporate) tax	0.00	0.00	12,123,814.61
NET PROFIT	-702,022.94	-702,022.94	31,175,523.28

RATIOS

Net Present Value of Total Capital Invested	at 15.00%	14,170,677.83
Internal rate of return on investment (IRR)	19.27%	
Modified IRR on investment	19.27%	
Net Present Value of Total Equity Capital Invested	at 15.00%	35,972,347.77
Internal rate of return on equity (IRRE)	1,006.15%	
Modified IRRE on equity	1,006.15%	
Net present values discounted to	9/2011	

VALUE-ADDED CRITERIA

South African Rand

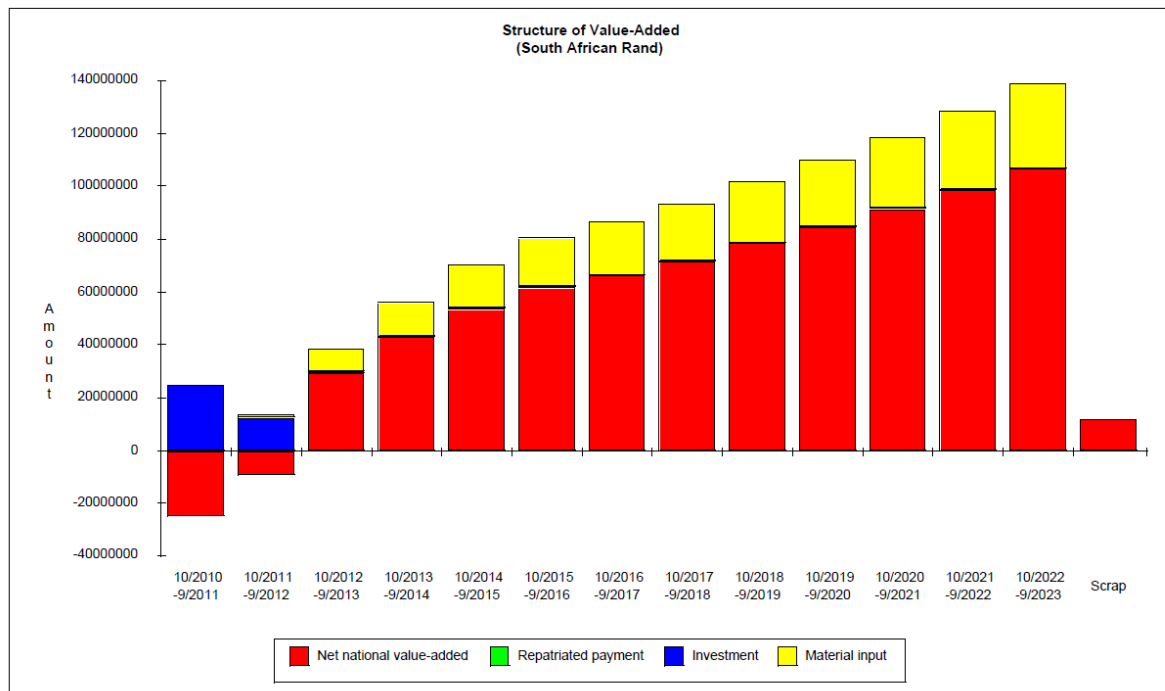
	Present value	Grand total	10/2010 -9/2011	10/2011 -9/2012	10/2012 -9/2013	10/2013 -9/2014	10/2014 -9/2015
Value of output (incl. tax)	453,182,869.67	1,037,551,418.03	0.00	4,453,000.00	38,631,000.00	55,789,000.00	69,942,000.00
Material input	103,481,415.31	235,899,000.00	0.00	1,024,000.00	8,835,000.00	12,832,000.00	16,087,000.00
GROSS DOMESTIC VALUE-ADDED	349,701,454.37	801,652,418.03	0.00	3,429,000.00	29,796,000.00	42,957,000.00	53,855,000.00
Investment	37,782,000.01	40,529,066.67	24,770,000.00	12,418,933.33	846,191.67	433,008.33	352,625.00
NET DOMESTIC VALUE-ADDED	311,919,454.35	761,123,351.37	-24,770,000.00	-8,989,933.33	28,949,808.33	42,523,991.67	53,502,375.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	311,919,454.35	761,123,351.37	-24,770,000.00	-8,989,933.33	28,949,808.33	42,523,991.67	53,502,375.00
Distribution of value-added (%)							
Wages to value-added	44.71	38.58	0.00	-35.83	63.80	52.73	48.01
Dividends, interest to value-added	8.08	6.03	-3.75	-39.55	14.79	11.23	8.32
Government to value-added	6.60	7.53	0.00	0.00	0.00	0.00	0.80
Others to value-added	40.60	47.87	103.75	175.37	21.41	36.03	42.87
Absolute efficiency test							
PV (NNVA) to PV (wages)	2.24						
Relative efficiency test							
PV (NNVA) to PV (investment)	8.26						
PV (NNVA) to PV (foreign exchange)	0.00						
PV (NNVA) to PV (skilled labour)	2.24						
PV (NNVA) to PV (labour)	2.24						

VALUE-ADDED CRITERIA

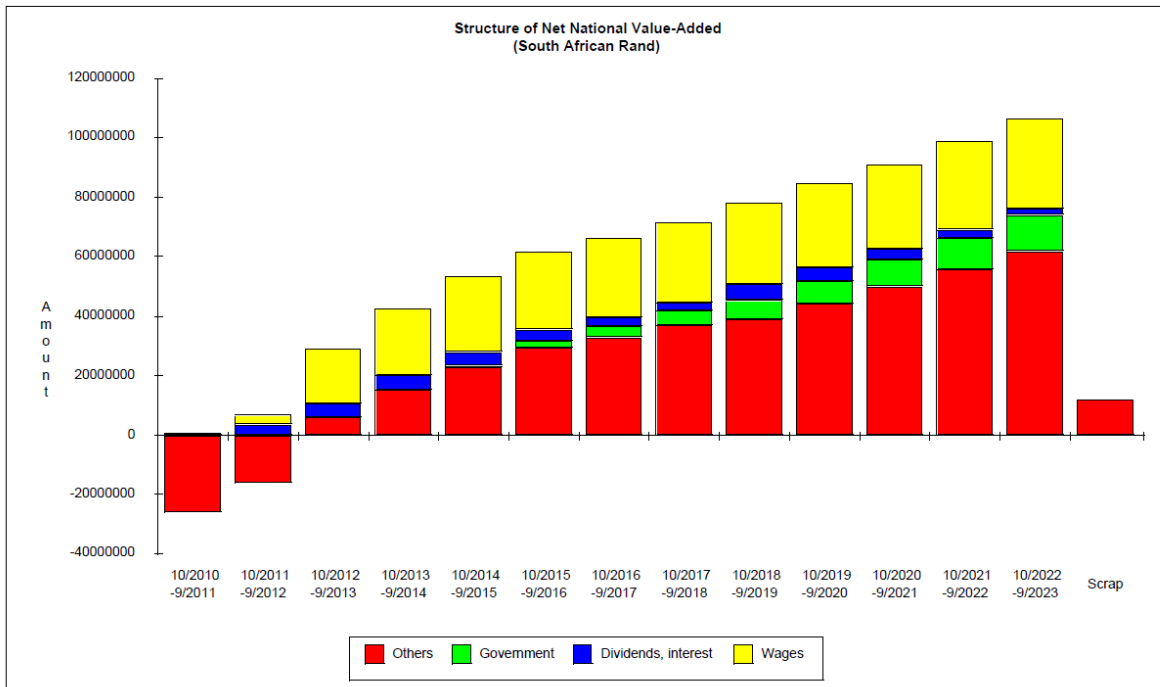
South African Rand

	10/2015 -9/2016	10/2016 -9/2017	10/2017 -9/2018	10/2018 -9/2019	10/2019 -9/2020	10/2020 -9/2021	10/2021 -9/2022
Value of output (incl. tax)	80,448,000.00	86,346,000.00	93,085,000.00	101,768,000.00	109,919,000.00	118,723,000.00	128,232,000.00
Material input	18,508,000.00	19,860,000.00	21,410,000.00	23,407,000.00	25,281,000.00	27,306,000.00	29,493,000.00
GROSS DOMESTIC VALUE-ADDED	61,940,000.00	66,486,000.00	71,675,000.00	78,361,000.00	84,638,000.00	91,417,000.00	98,739,000.00
Investment	262,275.00	146,466.67	167,916.67	216,341.67	203,016.67	219,375.00	236,925.00
NET DOMESTIC VALUE-ADDED	61,677,725.00	66,339,533.33	71,507,083.33	78,144,658.33	84,434,983.33	91,197,625.00	98,502,075.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	61,677,725.00	66,339,533.33	71,507,083.33	78,144,658.33	84,434,983.33	91,197,625.00	98,502,075.00
Distribution of value-added (%)							
Wages to value-added	42.36	40.09	37.89	35.34	33.37	31.55	29.84
Dividends, interest to value-added	6.17	4.75	3.59	6.50	5.14	3.89	3.04
Government to value-added	3.64	5.62	6.71	8.30	9.13	9.89	10.66
Others to value-added	47.83	49.54	51.81	49.86	52.35	54.67	56.46
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							

VALUE-ADDED CRITERIA		
South African Rand		
	10/2022 -9/2023	Scrap 10/2023-9/2024
Value of output (incl. tax)	138,503,000.00	11,712,418.03
Material input	31,856,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	106,647,000.00	11,712,418.03
Investment	255,991.67	0.00
NET DOMESTIC VALUE-ADDED	106,391,008.33	11,712,418.03
Repatriated payment	0.00	0.00
NET NATIONAL VALUE-ADDED	106,391,008.33	11,712,418.03
Distribution of value-added (%)		
Wages to value-added	28.26	0.00
Dividends, interest to value-added	2.25	0.00
Government to value-added	11.63	0.00
Others to value-added	57.86	100.00
Absolute efficiency test		
PV (NNVA) to PV (wages)		
Relative efficiency test		
PV (NNVA) to PV (investment)		
PV (NNVA) to PV (foreign exchange)		
PV (NNVA) to PV (skilled labour)		
PV (NNVA) to PV (labour)		



	Net national value-added	Repatriated payment	Investment	Material input
10/2010-9/2011	-24,770,000.00	0.00	24,770,000.00	0.00
10/2011-9/2012	-8,989,933.33	0.00	12,418,933.33	1,024,000.00
10/2012-9/2013	28,949,808.33	0.00	846,191.67	8,835,000.00
10/2013-9/2014	42,523,991.67	0.00	433,008.33	12,832,000.00
10/2014-9/2015	53,502,375.00	0.00	352,625.00	16,087,000.00
10/2015-9/2016	61,677,725.00	0.00	262,275.00	18,508,000.00
10/2016-9/2017	66,339,533.33	0.00	146,466.67	19,860,000.00
10/2017-9/2018	71,507,083.33	0.00	167,916.67	21,410,000.00
10/2018-9/2019	78,144,658.33	0.00	216,341.67	23,407,000.00
10/2019-9/2020	84,434,983.33	0.00	203,016.67	25,281,000.00
10/2020-9/2021	91,197,625.00	0.00	219,375.00	27,306,000.00
10/2021-9/2022	98,502,075.00	0.00	236,925.00	29,493,000.00
10/2022-9/2023	106,391,008.33	0.00	255,991.67	31,856,000.00
Scrap	11,712,418.03	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
10/2010-9/2011	-25,698,584.00	0.00	928,584.00	0.00
10/2011-9/2012	-15,766,091.64	0.00	3,555,150.31	3,221,008.00
10/2012-9/2013	6,198,641.23	0.00	4,281,167.11	18,470,000.00
10/2013-9/2014	15,322,938.03	0.00	4,776,080.63	22,424,973.00
10/2014-9/2015	22,935,399.07	429,066.58	4,453,880.34	25,684,029.00
10/2015-9/2016	29,499,368.79	2,246,196.47	3,807,208.74	26,124,951.00
10/2016-9/2017	32,867,574.12	3,729,884.20	3,148,080.01	26,593,995.00
10/2017-9/2018	37,046,331.39	4,800,575.91	2,569,144.03	27,091,032.00
10/2018-9/2019	38,962,464.79	6,488,643.04	5,075,553.50	27,617,997.00
10/2019-9/2020	44,203,467.03	7,712,445.84	4,341,084.46	28,177,986.00
10/2020-9/2021	49,861,555.19	9,022,742.53	3,543,360.27	28,769,967.00
10/2021-9/2022	55,612,465.04	10,496,309.06	2,995,361.90	29,397,939.00
10/2022-9/2023	61,559,399.76	12,373,218.80	2,396,358.78	30,062,031.00
Scrap	11,712,418.03	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	10/2010 -9/2011	10/2011 -9/2012	10/2012 -9/2013	10/2013 -9/2014	10/2014 -9/2015
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	6,216,160.00	6,216,160.00	6,216,160.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	-6,216,160.00	-6,216,160.00	-6,216,160.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	-6,216,160.00	-6,216,160.00	-6,216,160.00	0.00	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	10/2015 -9/2016	10/2016 -9/2017	10/2017 -9/2018	10/2018 -9/2019	10/2019 -9/2020	10/2020 -9/2021	10/2021 -9/2022
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00

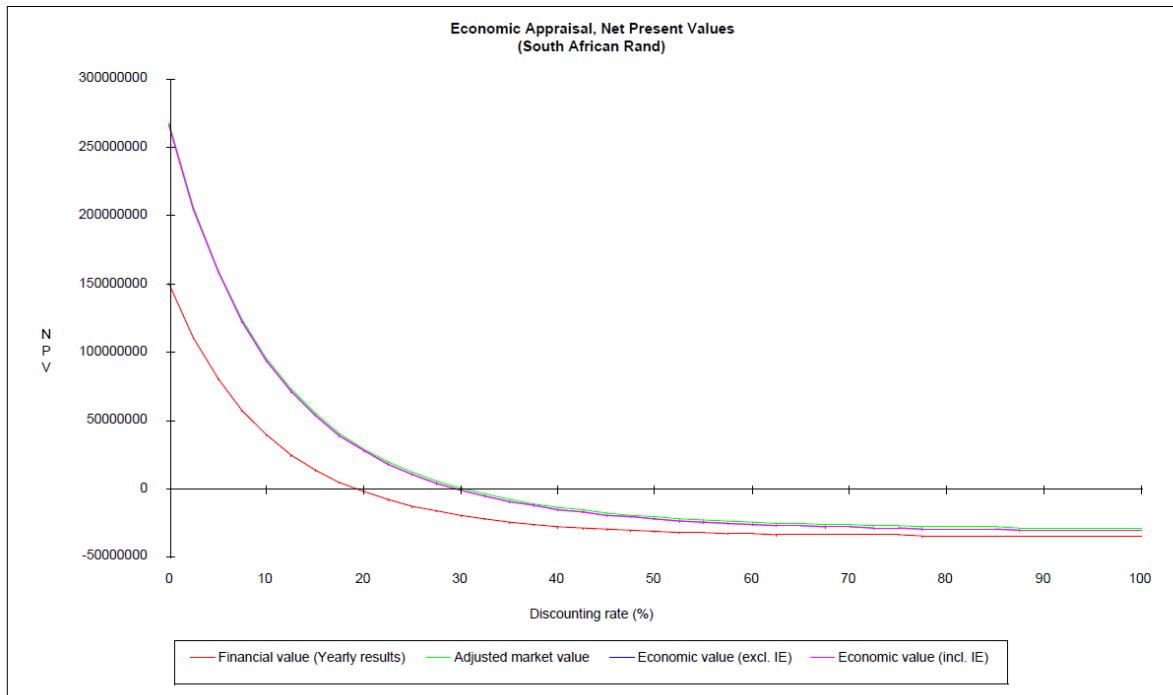
NET FOREIGN EXCHANGE EFFECTS		
South African Rand		
	10/2022 -9/2023	Scrap 10/2023-9/2024
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00
Equity share	0.00	0.00
Loans	0.00	0.00
Subsidies, grants	0.00	0.00
Export of products	0.00	0.00
Other income	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00
Fixed investments	0.00	0.00
Material input	0.00	0.00
Debt service	0.00	0.00
Wages	0.00	0.00
Equity capital refund	0.00	0.00
Dividends transfer	0.00	0.00
Others	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	54,500,407.01	0.00	0.00	0.00
Indirect employment	39.00	90.00	129.00	0.00	0.00	0.00	0.00
Total employment	39.00	90.00	129.00	54,500,407.01	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	6.00	2.60	2.60

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	455,028,039.91	1.00	455,028,039.91	0.00	0.00	455,028,039.91	0.00
Inflow operation	450,078,249.41	1.00	450,078,249.41	0.00	0.00	450,078,249.41	0.00
Other income	4,949,790.50	1.00	4,949,790.50	0.00	0.00	4,949,790.50	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	425,449,778.46	0.88	374,990,831.73	2.13	1,602,879.23	376,593,710.97	0.00
Increase in fixed assets	41,793,699.14	0.94	39,344,899.14	20.32	1,602,879.23	40,947,778.38	0.00
Increase in net working capital	6,624,951.65	1.00	6,624,951.65	0.00	0.00	6,624,951.65	0.00
Operating costs	343,183,060.90	0.92	315,288,466.36	0.00	0.00	315,288,466.36	0.00
Marketing costs	13,732,514.58	1.00	13,732,514.58	0.00	0.00	13,732,514.58	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	20,115,552.19	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	29,578,261.45	2.71	80,037,208.18	-9.99	-1,602,879.23	78,434,328.95	0.00
INTERNAL RATE OF RETURN	19.27	---	30.39	---	---	29.56	---
BENEFIT-COST RATIO	1.07	---	1.21	---	---	1.21	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	455,028,039.91
Inflow operation	450,078,249.41
Other income	4,949,790.50
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	376,593,710.97
Increase in fixed assets	40,947,778.38
Increase in net working capital	6,624,951.65
Operating costs	315,288,466.36
Marketing costs	13,732,514.58
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	78,434,328.95
INTERNAL RATE OF RETURN	29.56
BENEFIT-COST RATIO	1.21



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	150,206,671.83	267,261,902.86	265,659,023.63	265,659,023.63
10.00 %	39,595,352.35	95,843,968.72	94,241,089.49	94,241,089.49
20.00 %	-1,923,588.34	29,581,539.01	27,978,659.78	27,978,659.78
30.00 %	-19,284,865.87	742,460.21	-860,419.02	-860,419.02
40.00 %	-27,141,446.66	-13,062,154.50	-14,665,033.74	-14,665,033.74
50.00 %	-30,874,867.40	-20,177,521.26	-21,780,400.49	-21,780,400.49
60.00 %	-32,671,846.28	-24,050,959.94	-25,653,839.17	-25,653,839.17
70.00 %	-33,500,557.54	-26,237,698.87	-27,840,578.10	-27,840,578.10
80.00 %	-33,821,845.80	-27,494,327.77	-29,097,207.00	-29,097,207.00
90.00 %	-33,868,732.55	-28,213,367.44	-29,816,246.67	-29,816,246.67
100.00 %	-33,765,042.13	-28,609,894.10	-30,212,773.33	-30,212,773.33

Project 7

SUMMARY SHEET

Project title:	Project 7 - G Investments
Project description:	Establishment of a zirconium beneficiation facility in Gauteng.
Date and time:	
Project classification:	New project
Construction phase:	3/2011 - 2/2012
Length:	1 years
Production phase:	3/2012 - 2/2024
Length:	12 years
Accounting currency:	South African Rand (ZAR)
Units:	Absolute
Local currency:	South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	0.00	193,384,000.00	193,384,000.00
Total pre-production expenditures	17,926,621.31	23,874,745.83	41,801,367.14
<i>Pre-production expenditures (net of interest)</i>	0.00	12,980,000.00	12,980,000.00
<i>Interest</i>	17,926,621.31	10,894,745.83	28,821,367.14
Increase in net working capital	0.00	38,942,819.44	38,942,819.44
TOTAL INVESTMENT COSTS	17,926,621.31	256,201,565.27	274,128,186.59

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	41,385,000.00	0.00	41,385,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	41,385,000.00	0.00	41,385,000.00
Total long-term loans	187,544,231.54	10,894,745.83	198,438,977.37
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	187,544,231.54	10,894,745.83	198,438,977.37
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	37,905,062.50	37,905,062.50
TOTAL SOURCES OF FINANCE	228,929,231.54	48,799,808.33	277,729,039.87

INCOME AND COSTS, OPERATIONS

	First year 3/2012-2/2013	Reference year 3/2012-2/2013	Last year 3/2023-2/2024
SALES REVENUE	0.00	0.00	354,420,000.00
Factory costs	0.00	0.00	257,861,000.00
Administrative overhead costs	0.00	0.00	3,750,000.00
OPERATING COSTS	0.00	0.00	261,611,000.00
Depreciation	0.00	0.00	1,479,070.00
Financial costs	5,481,876.75	5,481,876.75	0.00
TOTAL PRODUCTION COSTS	5,481,876.75	5,481,876.75	263,090,070.00
Marketing costs	0.00	0.00	21,265,000.00
COSTS OF PRODUCTS	5,481,876.75	5,481,876.75	284,355,070.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-5,481,876.75	-5,481,876.75	70,064,930.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-5,481,876.75	-5,481,876.75	70,064,930.00

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	70,064,930.00
Income (corporate) tax	0.00	0.00	19,618,180.40
NET PROFIT	-5,481,876.75	-5,481,876.75	50,446,749.60

RATIOS

Net Present Value of Total Capital Invested	at 14.00%	729,494.03
Internal rate of return on investment (IRR)	14.07%	
Modified IRR on investment	14.07%	
Net Present Value of Total Equity Capital Invested	at 14.00%	40,918,533.25
Internal rate of return on equity (IRRE)	41.71%	
Modified IRRE on equity	41.71%	
Net present values discounted to	2/2012	

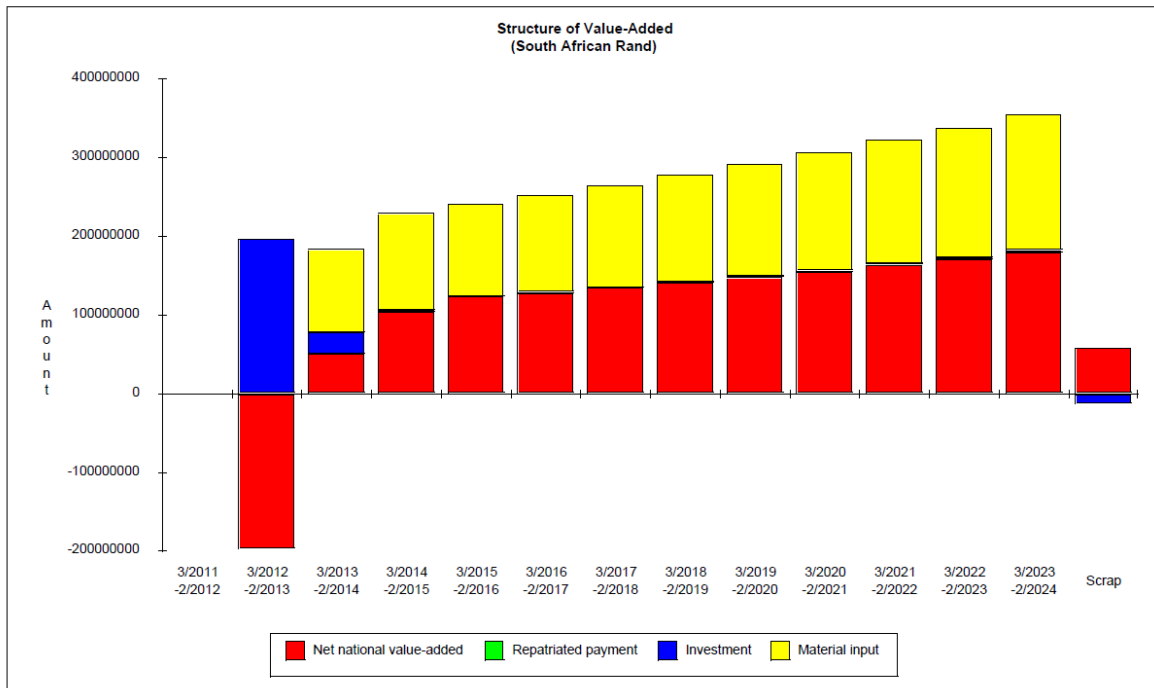
VALUE-ADDED CRITERIA
South African Rand

	Present value	Grand total	3/2011 -2/2012	3/2012 -2/2013	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016
Value of output (incl. tax)	1,420,421,326.57	3,104,296,267.98	0.00	0.00	183,222,000.00	228,592,000.00	240,398,125.00
Material input	711,261,243.86	1,526,018,000.00	0.00	0.00	106,268,000.00	123,440,000.00	117,625,000.00
GROSS DOMESTIC VALUE-ADDED	709,160,082.71	1,578,278,267.98	0.00	0.00	76,954,000.00	105,152,000.00	122,773,125.00
Investment	199,977,651.17	224,692,416.67	0.00	196,364,000.00	26,564,166.67	2,641,208.33	-101,666.67
NET DOMESTIC VALUE-ADDED	509,182,431.55	1,353,585,851.31	0.00	-196,364,000.00	50,389,833.33	102,510,791.67	122,874,791.67
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	509,182,431.55	1,353,585,851.31	0.00	-196,364,000.00	50,389,833.33	102,510,791.67	122,874,791.67
Distribution of value-added (%)							
Wages to value-added	24.19	20.27	0.00	0.00	30.98	17.42	15.70
Dividends, interest to value-added	12.04	5.52	0.00	-8.34	28.67	11.80	6.78
Government to value-added	10.11	9.12	0.00	0.00	0.00	4.06	7.27
Others to value-added	53.66	65.10	0.00	108.34	40.35	66.72	70.25
Absolute efficiency test							
PV (NNVA) to PV (wages)	4.13						
Relative efficiency test							
PV (NNVA) to PV (investment)	2.55						
PV (NNVA) to PV (foreign exchange)	0.00						
PV (NNVA) to PV (skilled labour)	4.13						
PV (NNVA) to PV (labour)	4.13						

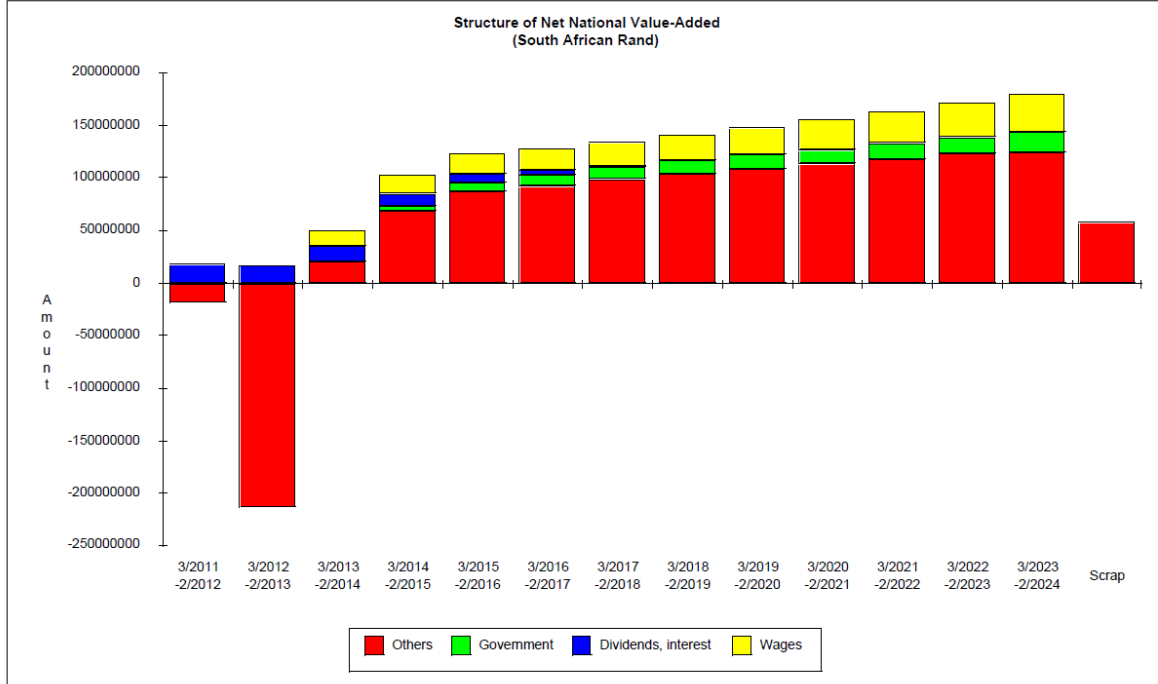
VALUE-ADDED CRITERIA
South African Rand

	3/2016 -2/2017	3/2017 -2/2018	3/2018 -2/2019	3/2019 -2/2020	3/2020 -2/2021	3/2021 -2/2022	3/2022 -2/2023
Value of output (incl. tax)	251,975,000.00	264,548,000.00	277,752,000.00	291,610,000.00	306,161,000.00	321,469,000.00	337,543,000.00
Material input	123,468,000.00	129,629,000.00	136,098,000.00	142,889,000.00	150,019,000.00	157,520,000.00	165,396,000.00
GROSS DOMESTIC VALUE-ADDED	128,507,000.00	134,919,000.00	141,654,000.00	148,721,000.00	156,142,000.00	163,949,000.00	172,147,000.00
Investment	1,027,791.67	1,091,791.67	1,154,583.33	1,220,333.33	1,290,416.67	1,366,375.00	1,445,250.00
NET DOMESTIC VALUE-ADDED	127,479,208.33	133,827,208.33	140,499,416.67	147,500,666.67	154,851,583.33	162,582,625.00	170,701,750.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	127,479,208.33	133,827,208.33	140,499,416.67	147,500,666.67	154,851,583.33	162,582,625.00	170,701,750.00
Distribution of value-added (%)							
Wages to value-added	16.34	16.81	17.29	17.79	18.30	18.83	19.37
Dividends, interest to value-added	3.57	0.70	0.00	0.00	0.00	0.00	0.00
Government to value-added	8.24	8.98	9.10	9.00	8.78	8.65	8.49
Others to value-added	71.85	73.51	73.61	73.21	72.92	72.52	72.14
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							

VALUE-ADDED CRITERIA		
South African Rand		
	3/2023 -2/2024	Scrap 3/2024-2/2025
Value of output (incl. tax)	354,420,000.00	46,606,142.98
Material input	173,666,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	180,754,000.00	46,606,142.98
Investment	1,528,625.00	-10,900,458.33
NET DOMESTIC VALUE-ADDED	179,225,375.00	57,506,601.31
Repatriated payment	0.00	0.00
NET NATIONAL VALUE-ADDED	179,225,375.00	57,506,601.31
Distribution of value-added (%)		
Wages to value-added	19.92	0.00
Dividends, interest to value-added	0.00	0.00
Government to value-added	10.95	0.00
Others to value-added	69.13	100.00
Absolute efficiency test		
PV (NNVA) to PV (wages)		
Relative efficiency test		
PV (NNVA) to PV (investment)		
PV (NNVA) to PV (foreign exchange)		
PV (NNVA) to PV (skilled labour)		
PV (NNVA) to PV (labour)		



	Net national value-added	Repatriated payment	Investment	Material input
3/2011-2/2012	0.00	0.00	0.00	0.00
3/2012-2/2013	-196,364,000.00	0.00	196,364,000.00	0.00
3/2013-2/2014	50,389,833.33	0.00	26,564,166.67	106,268,000.00
3/2014-2/2015	102,510,791.67	0.00	2,641,208.33	123,440,000.00
3/2015-2/2016	122,874,791.67	0.00	-101,666.67	117,625,000.00
3/2016-2/2017	127,479,208.33	0.00	0.00	123,468,000.00
3/2017-2/2018	133,827,208.33	0.00	0.00	129,629,000.00
3/2018-2/2019	140,499,416.67	0.00	0.00	136,098,000.00
3/2019-2/2020	147,500,666.67	0.00	0.00	142,889,000.00
3/2020-2/2021	154,851,583.33	0.00	0.00	150,019,000.00
3/2021-2/2022	162,582,625.00	0.00	0.00	157,520,000.00
3/2022-2/2023	170,701,750.00	0.00	0.00	165,396,000.00
3/2023-2/2024	179,225,375.00	0.00	0.00	173,666,000.00
Scrap	57,506,601.31	0.00	-10,900,458.33	0.00



	Others	Government	Dividends, Interest	Wages
3/2011-2/2012	-17,926,621.31	0.00	17,926,621.31	0.00
3/2012-2/2013	-212,740,622.58	0.00	16,376,622.58	0.00
3/2013-2/2014	20,331,373.34	0.00	14,447,459.99	15,611,000.00
3/2014-2/2015	68,396,864.55	4,157,417.79	12,096,509.33	17,860,000.00
3/2015-2/2016	86,324,469.76	8,935,153.15	8,326,168.76	19,289,000.00
3/2016-2/2017	91,590,091.64	10,501,288.51	4,555,828.19	20,832,000.00
3/2017-2/2018	98,373,026.63	12,015,596.56	942,585.14	22,496,000.00
3/2018-2/2019	103,422,936.27	12,778,480.40	0.00	24,298,000.00
3/2019-2/2020	107,986,826.27	13,271,840.40	0.00	26,242,000.00
3/2020-2/2021	112,911,822.93	13,597,760.40	0.00	28,342,000.00
3/2021-2/2022	117,911,344.60	14,062,280.40	0.00	30,609,000.00
3/2022-2/2023	123,142,709.60	14,501,040.40	0.00	33,058,000.00
3/2023-2/2024	123,905,194.60	19,618,180.40	0.00	35,702,000.00
Scrap	57,506,601.31	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	3/2016 -2/2017	3/2017 -2/2018	3/2018 -2/2019	3/2019 -2/2020	3/2020 -2/2021	3/2021 -2/2022	3/2022 -2/2023
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	183,222,000.00	183,222,000.00	183,222,000.00	183,222,000.00	183,222,000.00	183,222,000.00	183,222,000.00
Indirect foreign exchange outflows	106,268,000.00	106,268,000.00	106,268,000.00	106,268,000.00	106,268,000.00	106,268,000.00	106,268,000.00
NET FOREIGN INDIRECT EFFECTS	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00
NET FOREIGN EXCHANGE EFFECTS	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00	76,954,000.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	3/2011 -2/2012	3/2012 -2/2013	3/2013 -2/2014	3/2014 -2/2015	3/2015 -2/2016
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	986,868,656.22	2,015,442,000.00	0.00	0.00	183,222,000.00	183,222,000.00	183,222,000.00
Indirect foreign exchange outflows	1,027,309,578.60	1,675,472,650.00	133,168,050.00	240,188,550.00	239,436,050.00	106,268,000.00	106,268,000.00
NET FOREIGN INDIRECT EFFECTS	-40,440,922.38	339,969,350.00	-133,168,050.00	-240,188,550.00	-56,214,050.00	76,954,000.00	76,954,000.00
NET FOREIGN EXCHANGE EFFECTS	-40,440,922.38	339,969,350.00	-133,168,050.00	-240,188,550.00	-56,214,050.00	76,954,000.00	76,954,000.00

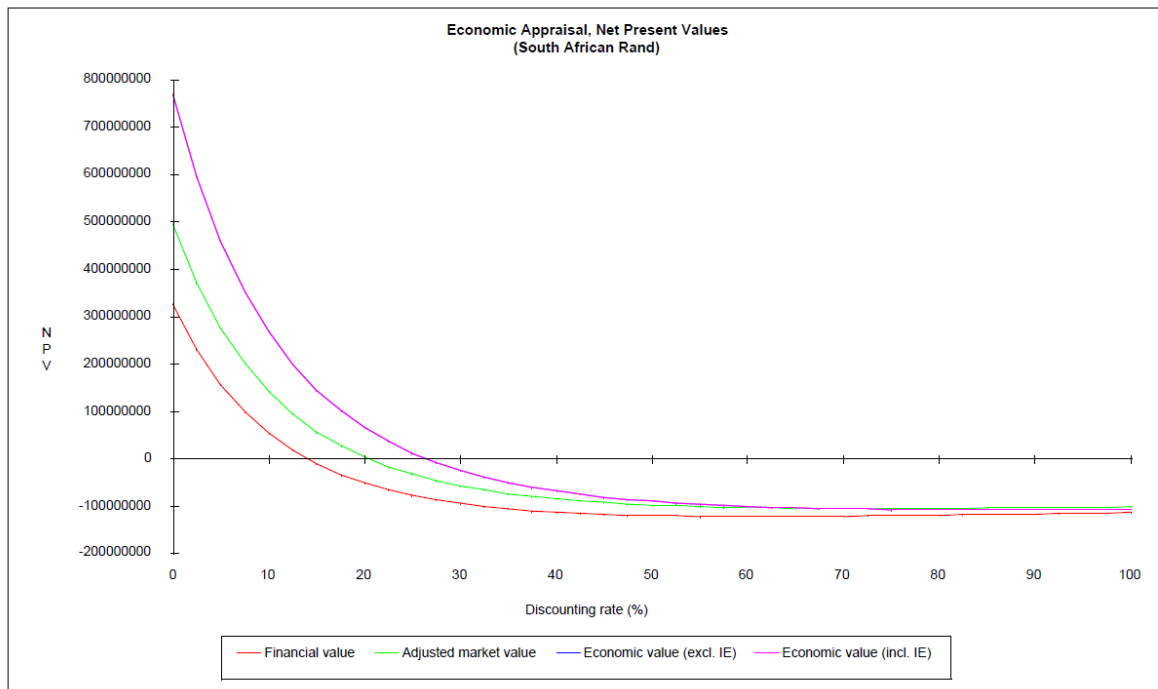
NET FOREIGN EXCHANGE EFFECTS		
South African Rand		
	3/2023 -2/2024	Scrap 3/2024-2/2025
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00
Equity share	0.00	0.00
Loans	0.00	0.00
Subsidies, grants	0.00	0.00
Export of products	0.00	0.00
Other income	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00
Fixed investments	0.00	0.00
Material input	0.00	0.00
Debt service	0.00	0.00
Wages	0.00	0.00
Equity capital refund	0.00	0.00
Dividends transfer	0.00	0.00
Others	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00
Indirect foreign exchange inflows	183,222,000.00	0.00
Indirect foreign exchange outflows	106,268,000.00	0.00
NET FOREIGN INDIRECT EFFECTS	76,954,000.00	0.00
NET FOREIGN EXCHANGE EFFECTS	76,954,000.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	274,128,186.59	0.00	0.00	0.00
Indirect employment	40.00	60.00	100.00	0.00	0.00	0.00	0.00
Total employment	40.00	60.00	100.00	274,128,186.59	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	19.20	12.80	12.80

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	1,425,754,254.90	1.00	1,425,754,254.90	98.74	281,636,333.58	1,707,390,588.48	0.00
Inflow operation	1,407,843,771.89	1.00	1,407,843,771.89	100.00	281,636,333.58	1,689,480,105.47	0.00
Other income	17,910,483.01	1.00	17,910,483.01	0.00	0.00	17,910,483.01	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	1,396,878,403.12	0.94	1,316,213,437.98	64.75	170,496,495.29	1,486,711,933.27	0.00
Increase in fixed assets	211,490,898.22	0.92	194,623,615.19	72.46	28,212,104.61	222,835,719.80	0.00
Increase in net working capital	25,016,017.99	1.00	25,016,017.99	0.00	0.00	25,016,017.99	0.00
Operating costs	1,023,692,199.64	0.99	1,011,376,903.53	70.33	142,286,390.68	1,153,663,294.21	0.00
Marketing costs	85,196,901.27	1.00	85,196,901.27	0.00	0.00	85,196,901.27	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	51,482,386.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	28,875,851.78	3.79	109,540,816.92	507.17	111,137,838.29	220,678,655.21	0.00
INTERNAL RATE OF RETURN	14.07	---	20.45	---	---	26.58	---
BENEFIT-COST RATIO	1.02	---	1.08	---	---	1.15	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	1,707,390,588.48
Inflow operation	1,689,480,105.47
Other income	17,910,483.01
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	1,486,711,933.27
Increase in fixed assets	222,835,719.80
Increase in net working capital	25,016,017.99
Operating costs	1,153,663,294.21
Marketing costs	85,196,901.27
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	220,678,655.21
INTERNAL RATE OF RETURN	26.58
BENEFIT-COST RATIO	1.15



Discounting rate (%)	Financial value	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	325,768,445.77	495,586,884.17	770,223,683.82	770,223,683.82
10.00 %	53,906,546.94	142,509,307.28	268,195,393.35	268,195,393.35
20.00 %	-50,291,913.58	3,843,415.72	66,589,419.31	66,589,419.31
30.00 %	-93,603,898.57	-56,277,522.99	-23,607,943.82	-23,607,943.82
40.00 %	-112,029,254.82	-83,920,064.34	-67,098,471.06	-67,098,471.06
50.00 %	-119,302,913.81	-96,765,097.35	-88,954,545.56	-88,954,545.56
60.00 %	-121,234,167.13	-102,343,511.05	-99,963,058.17	-99,963,058.17
70.00 %	-120,496,945.11	-104,153,007.64	-105,189,677.10	-105,189,677.10
80.00 %	-118,408,351.41	-103,937,532.77	-107,192,583.84	-107,192,583.84
90.00 %	-115,652,144.93	-102,617,740.29	-107,343,046.68	-107,343,046.68
100.00 %	-112,597,177.00	-100,701,982.40	-106,412,525.50	-106,412,525.50

Project 8

SUMMARY SHEET

Project title:	Project 8 - HCS Company
Project description:	Establishment of a cement production company.
Date and time:	
Project classification:	New project
Construction phase:	7/2010 - 10/2013
Length:	3 years, 4 months
Production phase:	11/2013 - 6/2024
Length:	11 years
Accounting currency:	South African Rand (ZAR)
Units:	Absolute
Local currency:	South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	893,523,000.00	0.00	893,523,000.00
Total pre-production expenditures	20,420,722.97	31,082,515.83	51,503,238.81
<i>Pre-production expenditures (net of interest)</i>	0.00	0.00	0.00
<i>Interest</i>	20,420,722.97	31,082,515.83	51,503,238.81
Increase in net working capital	0.00	215,919,687.22	215,919,687.22
TOTAL INVESTMENT COSTS	913,943,722.97	247,002,203.06	1,160,945,926.03

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	368,994,000.00	0.00	368,994,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	368,994,000.00	0.00	368,994,000.00
Total long-term loans	0.00	128,400,515.83	128,400,515.83
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	128,400,515.83	128,400,515.83
Total short-term loans	658,438,000.00	0.00	658,438,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	658,438,000.00	0.00	658,438,000.00
Accounts payable	0.00	52,148,100.69	52,148,100.69
TOTAL SOURCES OF FINANCE	1,027,432,000.00	180,548,616.53	1,207,980,616.53

INCOME AND COSTS, OPERATIONS

	First year 11/2013-6/2014	Reference year 11/2013-6/2014	Last year 7/2023-6/2024
SALES REVENUE	0.00	0.00	1,890,927,000.00
Factory costs	0.00	0.00	1,098,688,782.00
Administrative overhead costs	0.00	0.00	41,410,000.00
OPERATING COSTS	0.00	0.00	1,140,098,782.00
Depreciation	43,628,622.22	43,628,622.22	37,784,333.33
Financial costs	41,975,422.50	41,975,422.50	0.00
TOTAL PRODUCTION COSTS	85,604,044.72	85,604,044.72	1,177,883,115.33
Marketing costs	0.00	0.00	9,027,000.00
COSTS OF PRODUCTS	85,604,044.72	85,604,044.72	1,186,910,115.33
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-85,604,044.72	-85,604,044.72	704,016,884.67
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-85,604,044.72	-85,604,044.72	704,016,884.67

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	704,016,884.67
Income (corporate) tax	0.00	0.00	197,124,727.71
NET PROFIT	-85,604,044.72	-85,604,044.72	506,892,156.96

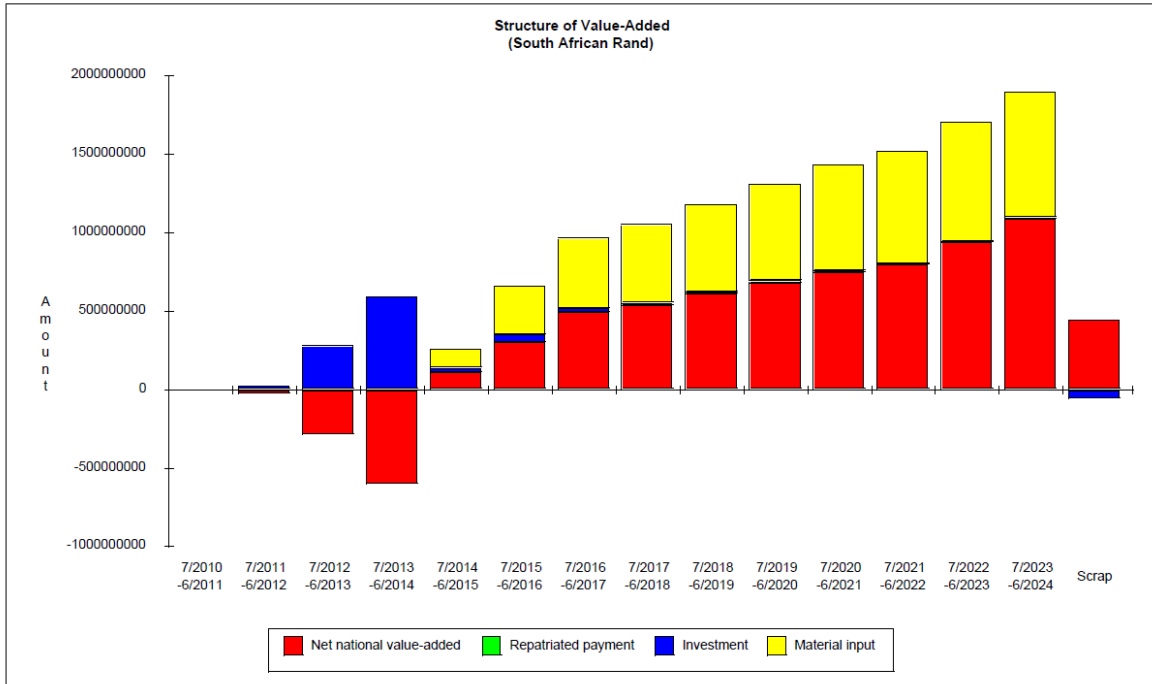
RATIOS

Net Present Value of Total Capital Invested	at 23.20%	-126,431,107.90
Internal rate of return on investment (IRR)	18.36%	
Modified IRR on investment	18.36%	
Net Present Value of Total Equity Capital Invested	at 23.20%	-14,507,230.54
Internal rate of return on equity (IRRE)	22.34%	
Modified IRRE on equity	22.34%	
Net present values discounted to	6/2011	

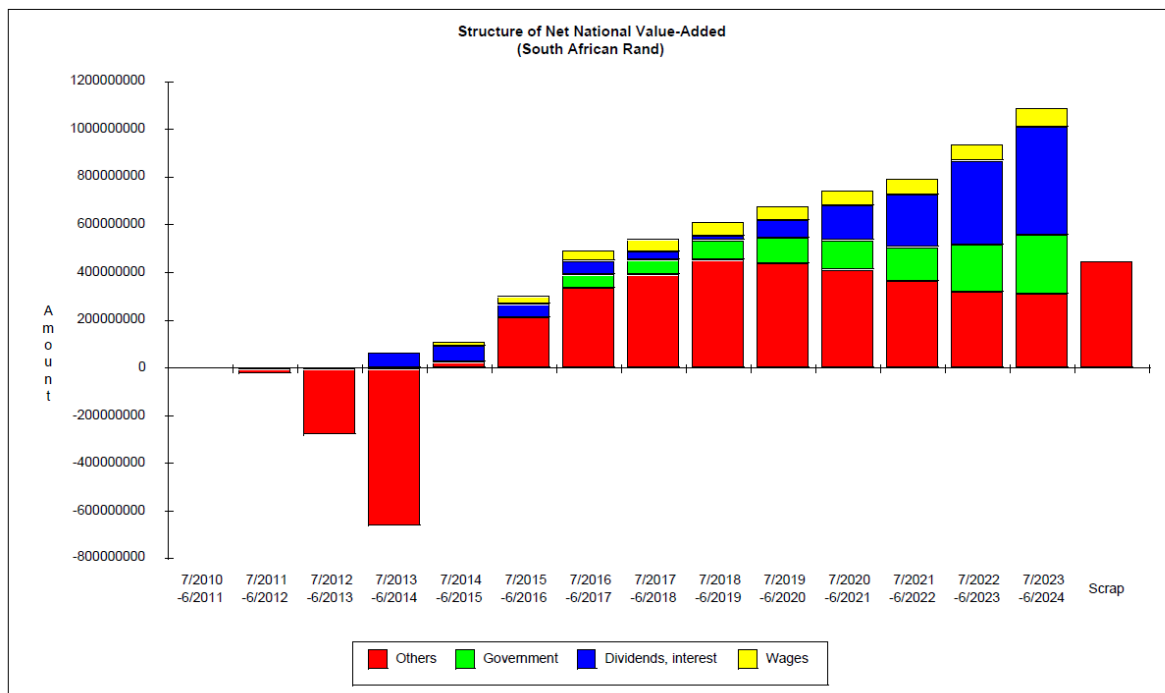
VALUE-ADDED CRITERIA						
South African Rand						
	Present value	Grand total	7/2010 -6/2011	7/2011 -6/2012	7/2012 -6/2013	7/2013 -6/2014
Value of output (incl. tax)	4,405,450,849.27	12,341,477,762.54	0.00	0.00	0.00	0.00
Material input	1,999,027,732.50	5,494,042,000.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	2,406,423,116.77	6,847,435,762.54	0.00	0.00	0.00	0.00
Investment	739,308,850.33	1,018,326,190.17	0.00	20,354,000.00	277,586,000.00	595,583,000.00
NET DOMESTIC VALUE-ADDED	1,667,114,266.44	5,829,109,572.38	0.00	-20,354,000.00	-277,586,000.00	-595,583,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	1,667,114,266.44	5,829,109,572.38	0.00	-20,354,000.00	-277,586,000.00	-595,583,000.00
Distribution of value-added (%)						
Wages to value-added	11.77	9.15	0.00	0.00	0.00	0.00
Dividends, interest to value-added	31.01	26.49	0.00	0.00	0.00	-10.48
Government to value-added	19.32	17.30	0.00	0.00	0.00	0.00
Others to value-added	37.91	47.07	0.00	100.00	100.00	110.48
Absolute efficiency test						
PV (NNVA) to PV (wages)	8.50					
Relative efficiency test						
PV (NNVA) to PV (investment)	2.25					
PV (NNVA) to PV (foreign exchange)	0.00					
PV (NNVA) to PV (skilled labour)	8.50					
PV (NNVA) to PV (labour)	8.50					

VALUE-ADDED CRITERIA						
South African Rand						
	7/2014 -6/2015	7/2015 -6/2016	7/2016 -6/2017	7/2017 -6/2018	7/2018 -6/2019	7/2019 -6/2020
Value of output (incl. tax)	255,171,000.00	656,737,000.00	964,924,000.00	1,050,517,000.00	1,177,785,000.00	1,308,021,000.00
Material input	120,408,000.00	309,895,000.00	450,601,000.00	500,427,000.00	555,763,000.00	617,217,000.00
GROSS DOMESTIC VALUE-ADDED	134,763,000.00	346,842,000.00	514,323,000.00	550,090,000.00	622,022,000.00	690,804,000.00
Investment	26,557,053.83	48,499,931.58	23,071,372.08	11,455,598.58	11,459,658.25	12,688,873.75
NET DOMESTIC VALUE-ADDED	108,205,946.17	298,342,068.42	491,251,627.92	538,634,401.42	610,562,341.75	678,115,126.25
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	108,205,946.17	298,342,068.42	491,251,627.92	538,634,401.42	610,562,341.75	678,115,126.25
Distribution of value-added (%)						
Wages to value-added	14.52	10.04	8.49	9.93	9.26	8.82
Dividends, interest to value-added	61.66	19.27	12.13	6.43	3.43	11.33
Government to value-added	0.00	0.00	11.80	11.32	13.00	15.30
Others to value-added	23.82	70.69	67.57	72.32	74.31	64.55
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA					
South African Rand					
	7/2020 -6/2021	7/2021 -6/2022	7/2022 -6/2023	7/2023 -6/2024	Scrap 7/2024-6/2025
Value of output (incl. tax)	1,429,048,000.00	1,511,498,000.00	1,698,694,000.00	1,890,927,000.00	398,155,762.54
Material input	674,226,000.00	713,229,000.00	754,377,000.00	797,899,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	754,822,000.00	798,269,000.00	944,317,000.00	1,093,028,000.00	398,155,762.54
Investment	11,872,362.75	8,417,920.83	8,885,906.50	9,398,627.92	-47,604,115.92
NET DOMESTIC VALUE-ADDED	742,949,637.25	789,851,079.17	935,431,093.50	1,083,629,372.08	445,659,878.46
Repatriated payment	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	742,949,637.25	789,851,079.17	935,431,093.50	1,083,629,372.08	445,659,878.46
Distribution of value-added (%)					
Wages to value-added	8.52	8.47	7.57	6.91	0.00
Dividends, interest to value-added	19.47	27.57	37.56	41.68	0.00
Government to value-added	16.84	17.93	20.57	22.82	0.00
Others to value-added	55.18	46.03	34.30	28.59	100.00
Absolute efficiency test					
PV (NNVA) to PV (wages)					
Relative efficiency test					
PV (NNVA) to PV (investment)					
PV (NNVA) to PV (foreign exchange)					
PV (NNVA) to PV (skilled labour)					
PV (NNVA) to PV (labour)					



	Net national value-added	Repatriated payment	Investment	Material Input
7/2010-6/2011	0.00	0.00	0.00	0.00
7/2011-6/2012	-20,354,000.00	0.00	20,354,000.00	0.00
7/2012-6/2013	-277,586,000.00	0.00	277,586,000.00	0.00
7/2013-6/2014	-595,583,000.00	0.00	595,583,000.00	0.00
7/2014-6/2015	108,205,946.17	0.00	26,557,053.83	120,408,000.00
7/2015-6/2016	298,342,068.42	0.00	48,499,931.58	309,895,000.00
7/2016-6/2017	491,251,627.92	0.00	23,071,372.08	450,601,000.00
7/2017-6/2018	538,634,401.42	0.00	11,455,598.58	500,427,000.00
7/2018-6/2019	610,562,341.75	0.00	11,459,658.25	555,763,000.00
7/2019-6/2020	678,115,126.25	0.00	12,688,873.75	617,217,000.00
7/2020-6/2021	742,949,637.25	0.00	11,872,362.75	674,226,000.00
7/2021-6/2022	789,851,079.17	0.00	8,417,920.83	713,229,000.00
7/2022-6/2023	935,431,093.50	0.00	8,885,906.50	754,377,000.00
7/2023-6/2024	1,083,629,372.08	0.00	9,398,627.92	797,899,000.00
Scrap	445,659,878.46	0.00	-47,504,115.92	0.00



	Others	Government	Dividends, interest	Wages
7/2010-6/2011	0.00	0.00	0.00	0.00
7/2011-6/2012	-20,354,000.00	0.00	0.00	0.00
7/2012-6/2013	-277,586,000.00	0.00	0.00	0.00
7/2013-6/2014	-657,979,145.47	0.00	62,396,145.47	0.00
7/2014-6/2015	25,778,647.27	0.00	66,718,534.90	15,708,764.00
7/2015-6/2016	210,906,679.58	0.00	57,479,838.83	29,955,560.00
7/2016-6/2017	331,960,124.04	57,976,601.96	59,595,041.91	41,719,860.00
7/2017-6/2018	389,566,709.11	60,986,219.66	34,607,490.64	53,473,982.00
7/2018-6/2019	453,703,698.78	79,372,309.22	20,927,085.75	56,559,248.00
7/2019-6/2020	437,716,711.25	103,735,183.92	76,840,993.08	59,822,238.00
7/2020-6/2021	409,929,681.81	125,114,529.50	144,632,285.94	63,273,140.00
7/2021-6/2022	363,553,032.90	141,610,431.54	217,763,774.72	66,923,840.00
7/2022-6/2023	320,846,246.76	192,411,339.49	351,388,415.25	70,785,092.00
7/2023-6/2024	309,812,626.99	247,307,051.25	451,640,911.85	74,868,782.00
Scrap	445,659,878.46	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	7/2010 -6/2011	7/2011 -6/2012	7/2012 -6/2013	7/2013 -6/2014	7/2014 -6/2015
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	1,047,345,383.24	2,551,710,000.00	0.00	0.00	0.00	0.00	255,171,000.00
Indirect foreign exchange outflows	529,150,828.80	1,247,494,500.00	0.00	14,471,500.00	14,471,500.00	14,471,500.00	120,408,000.00
NET FOREIGN INDIRECT EFFECTS	518,194,554.43	1,304,215,500.00	0.00	-14,471,500.00	-14,471,500.00	-14,471,500.00	134,763,000.00
NET FOREIGN EXCHANGE EFFECTS	518,194,554.43	1,304,215,500.00	0.00	-14,471,500.00	-14,471,500.00	-14,471,500.00	134,763,000.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	7/2015 -6/2016	7/2016 -6/2017	7/2017 -6/2018	7/2018 -6/2019	7/2019 -6/2020	7/2020 -6/2021	7/2021 -6/2022
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	255,171,000.00	255,171,000.00	255,171,000.00	255,171,000.00	255,171,000.00	255,171,000.00	255,171,000.00
Indirect foreign exchange outflows	120,408,000.00	120,408,000.00	120,408,000.00	120,408,000.00	120,408,000.00	120,408,000.00	120,408,000.00
NET FOREIGN INDIRECT EFFECTS	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00
NET FOREIGN EXCHANGE EFFECTS	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00	134,763,000.00

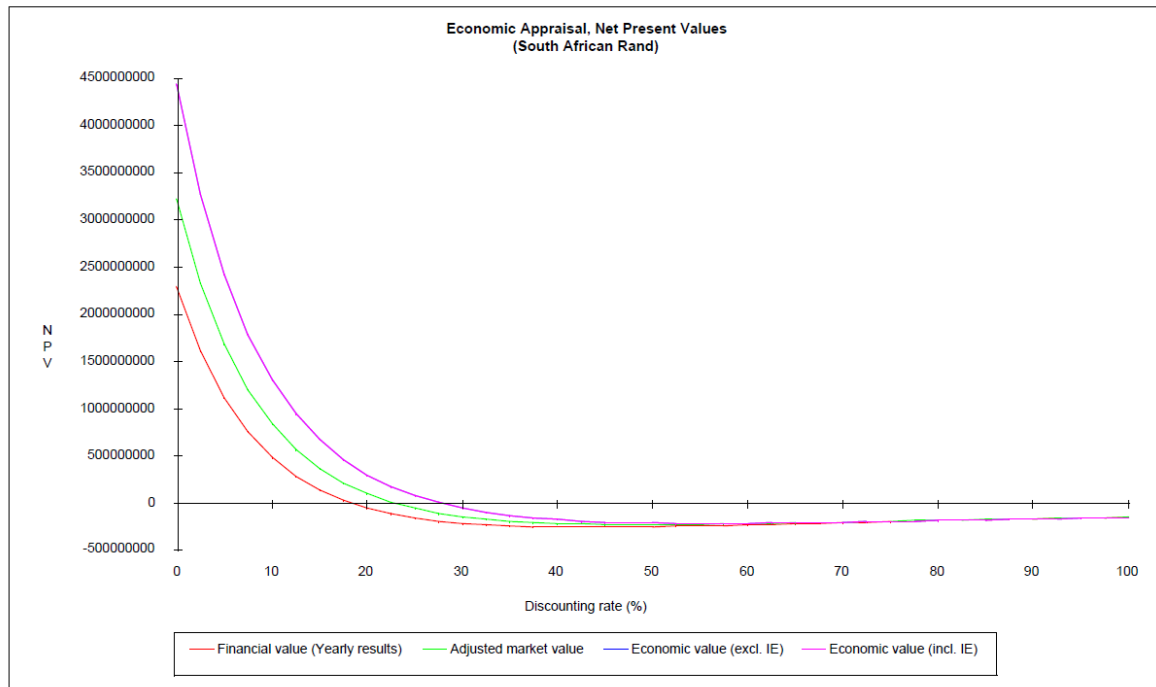
NET FOREIGN EXCHANGE EFFECTS			
South African Rand			
	7/2022 -6/2023	7/2023 -6/2024	Scrap 7/2024-6/2025
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00
Equity share	0.00	0.00	0.00
Loans	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00
Export of products	0.00	0.00	0.00
Other income	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00
Material input	0.00	0.00	0.00
Debt service	0.00	0.00	0.00
Wages	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00
Others	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00
Indirect foreign exchange inflows	255,171,000.00	255,171,000.00	0.00
Indirect foreign exchange outflows	120,408,000.00	120,408,000.00	0.00
NET FOREIGN INDIRECT EFFECTS	134,763,000.00	134,763,000.00	0.00
NET FOREIGN EXCHANGE EFFECTS	134,763,000.00	134,763,000.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	1,160,945,926.03	0.00	0.00	0.00
Indirect employment	226.00	340.00	566.00	0.00	0.00	0.00	0.00
Total employment	226.00	340.00	566.00	1,160,945,926.03	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	87.18	32.31	32.31

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	4,427,073,342.24	1.00	4,427,073,342.24	97.38	862,400,152.90	5,289,473,495.13	0.00
Inflow operation	4,310,966,091.24	1.00	4,310,966,091.24	100.00	862,400,152.90	5,173,366,244.14	0.00
Other income	116,107,251.00	1.00	116,107,251.00	0.00	0.00	116,107,251.00	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	4,078,530,114.53	0.93	3,773,617,996.49	61.04	460,800,018.62	4,234,418,015.11	0.00
Increase in fixed assets	700,982,297.47	1.00	699,692,059.12	43.51	60,898,514.95	760,490,574.08	0.00
Increase in net working capital	104,007,057.85	1.00	104,007,057.85	0.00	0.00	104,007,057.85	0.00
Operating costs	2,966,533,090.76	0.99	2,946,917,671.56	67.83	399,901,503.67	3,346,819,175.23	0.00
Marketing costs	23,101,207.95	1.00	23,101,207.95	0.00	0.00	23,101,207.95	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	283,906,460.50	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	348,543,227.70	1.87	653,455,345.75	307.22	401,600,134.28	1,055,055,480.03	0.00
INTERNAL RATE OF RETURN	18.36	---	23.00	---	---	27.75	---
BENEFIT-COST RATIO	1.09	---	1.17	---	---	1.25	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	5,289,473,495.13
Inflow operation	5,173,366,244.14
Other income	116,107,251.00
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	4,234,418,015.11
Increase in fixed assets	760,490,574.08
Increase in net working capital	104,007,057.85
Operating costs	3,346,819,175.23
Marketing costs	23,101,207.95
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	1,055,055,480.03
INTERNAL RATE OF RETURN	27.75
BENEFIT-COST RATIO	1.25



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	2,290,306,420.78	3,215,799,387.17	4,425,430,340.55	4,425,430,340.55
10.00 %	490,713,775.20	844,921,627.49	1,312,052,838.04	1,312,052,838.04
20.00 %	-51,202,731.33	102,903,650.64	301,259,339.88	301,259,339.88
30.00 %	-213,789,181.51	-139,240,546.33	-50,575,330.63	-50,575,330.63
40.00 %	-251,505,656.54	-212,127,200.45	-172,608,248.00	-172,608,248.00
50.00 %	-246,595,707.39	-224,211,459.03	-208,302,581.39	-208,302,581.39
60.00 %	-227,855,503.30	-214,320,733.15	-210,312,247.76	-210,312,247.76
70.00 %	-205,855,673.26	-197,229,675.23	-199,379,904.54	-199,379,904.54
80.00 %	-184,486,065.60	-178,733,112.39	-184,074,694.49	-184,074,694.49
90.00 %	-165,063,788.85	-161,071,504.98	-168,008,663.20	-168,008,663.20
100.00 %	-147,893,588.58	-145,024,013.89	-152,674,347.99	-152,674,347.99

Project 9

SUMMARY SHEET

Project title:	Project 9 - SASSA
Project description:	Establishment of a solar water heater manufacturing plant in Gauteng.
Date and time:	
Project classification:	Expansion/rehabilitation project
Construction phase:	3/2008 - 12/2008
Length:	10 months
Production phase:	1/2009 - 1/2018
Length:	10 years
Accounting currency:	South African Rand (ZAR)
Units:	Absolute
Local currency:	South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	29,000.00	11,355,000.00	11,384,000.00
Total pre-production expenditures	0.00	0.00	0.00
<i>Pre-production expenditures (net of interest)</i>	0.00	0.00	0.00
<i>Interest</i>	0.00	0.00	0.00
Increase in net working capital	0.00	40,606,286.81	40,606,286.81
TOTAL INVESTMENT COSTS	29,000.00	51,961,286.81	51,990,286.81

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	29,000.00	29,733,000.00	29,762,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	29,000.00	29,733,000.00	29,762,000.00
Total long-term loans	0.00	31,062,000.00	31,062,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	31,062,000.00	31,062,000.00
Total short-term loans	0.00	50,000,000.00	50,000,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	50,000,000.00	50,000,000.00
Accounts payable	0.00	85,327,895.83	85,327,895.83
TOTAL SOURCES OF FINANCE	29,000.00	196,122,895.83	196,151,895.83

INCOME AND COSTS, OPERATIONS

	First year 1/2009-1/2009	Reference year 1/2009-1/2009	Last year 2/2017-1/2018
SALES REVENUE	0.00	0.00	344,626,000.00
Factory costs	0.00	0.00	318,935,925.00
Administrative overhead costs	0.00	0.00	2,298,000.00
OPERATING COSTS	0.00	0.00	321,233,925.00
Depreciation	383.33	383.33	1,355,900.00
Financial costs	0.00	0.00	0.00
TOTAL PRODUCTION COSTS	383.33	383.33	322,589,825.00
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	383.33	383.33	322,589,825.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-383.33	-383.33	22,036,175.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00

SUMMARY SHEET

Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-383.33	-383.33	22,036,175.00
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	22,036,175.00
Income (corporate) tax	28.00	28.00	28.00
NET PROFIT	-411.33	-411.33	22,036,147.00

RATIOS

Net Present Value of Total Capital Invested	at 10.00%	44,376,208.22
Internal rate of return on investment (IRR)	48.37%	
Modified IRR on investment	48.37%	
Net Present Value of Total Equity Capital Invested	at 10.00%	42,744,280.92
Internal rate of return on equity (IRRE)	91.27%	
Modified IRRE on equity	91.27%	
Net present values discounted to	3/2008	

VALUE-ADDED CRITERIA

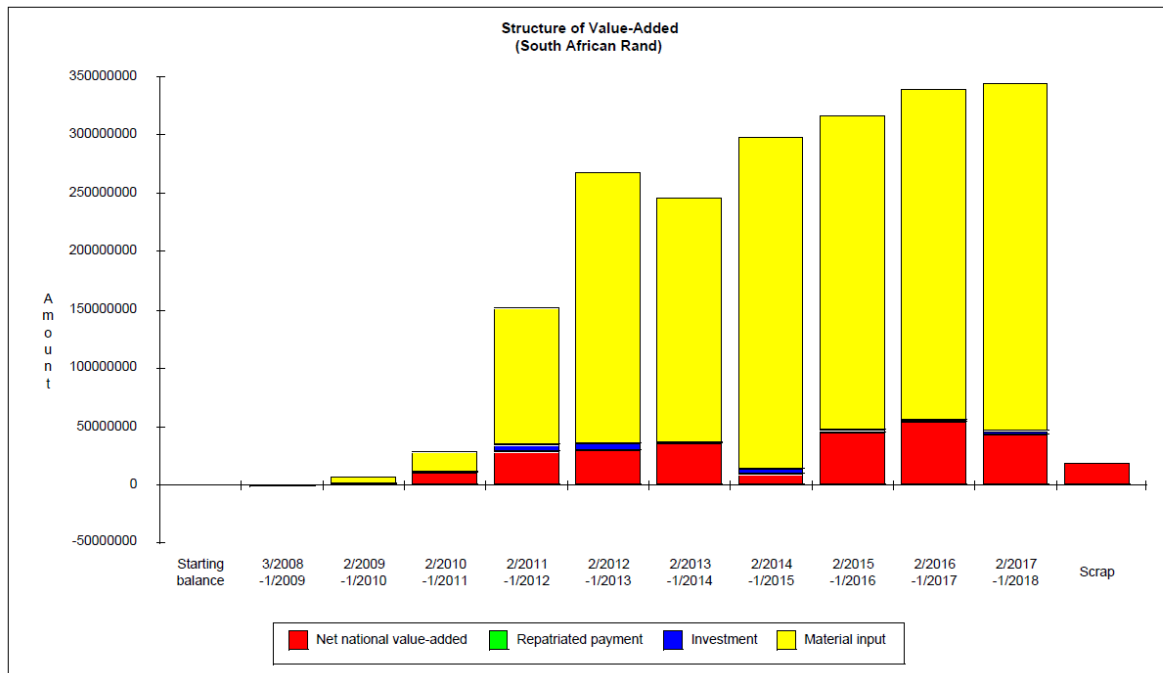
South African Rand

	Present value	Grand total	Starting balance	3/2008 -1/2009	2/2009 -1/2010	2/2010 -1/2011	2/2011 -1/2012
Value of output (incl. tax)	928,031,495.89	2,021,511,066.67	0.00	0.00	6,932,000.00	28,997,000.00	152,427,000.00
Material input	788,532,280.02	1,720,879,000.00	0.00	0.00	5,642,000.00	18,078,000.00	117,807,000.00
GROSS DOMESTIC VALUE-ADDED	139,499,215.87	300,632,066.67	0.00	0.00	1,290,000.00	10,919,000.00	34,620,000.00
Investment	13,157,487.77	25,421,666.67	0.00	29,000.00	235,083.33	921,166.67	5,541,375.00
NET DOMESTIC VALUE-ADDED	126,341,728.10	275,210,400.00	0.00	-29,000.00	1,054,916.67	9,997,833.33	29,078,625.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	126,341,728.10	275,210,400.00	0.00	-29,000.00	1,054,916.67	9,997,833.33	29,078,625.00
Distribution of value-added (%)							
Wages to value-added	21.87	19.46	0.00	0.00	122.19	16.84	48.24
Dividends, interest to value-added	24.18	26.01	0.00	0.00	34.65	0.48	8.07
Government to value-added	2.00	2.33	0.00	-0.10	0.00	0.00	0.00
Others to value-added	51.95	52.21	0.00	100.10	-56.85	82.67	43.69
Absolute efficiency test							
PV (NNVA) to PV (wages)	4.57						
Relative efficiency test							
PV (NNVA) to PV (investment)	9.60						
PV (NNVA) to PV (foreign exchange)	0.00						
PV (NNVA) to PV (skilled labour)	4.57						
PV (NNVA) to PV (labour)	4.57						

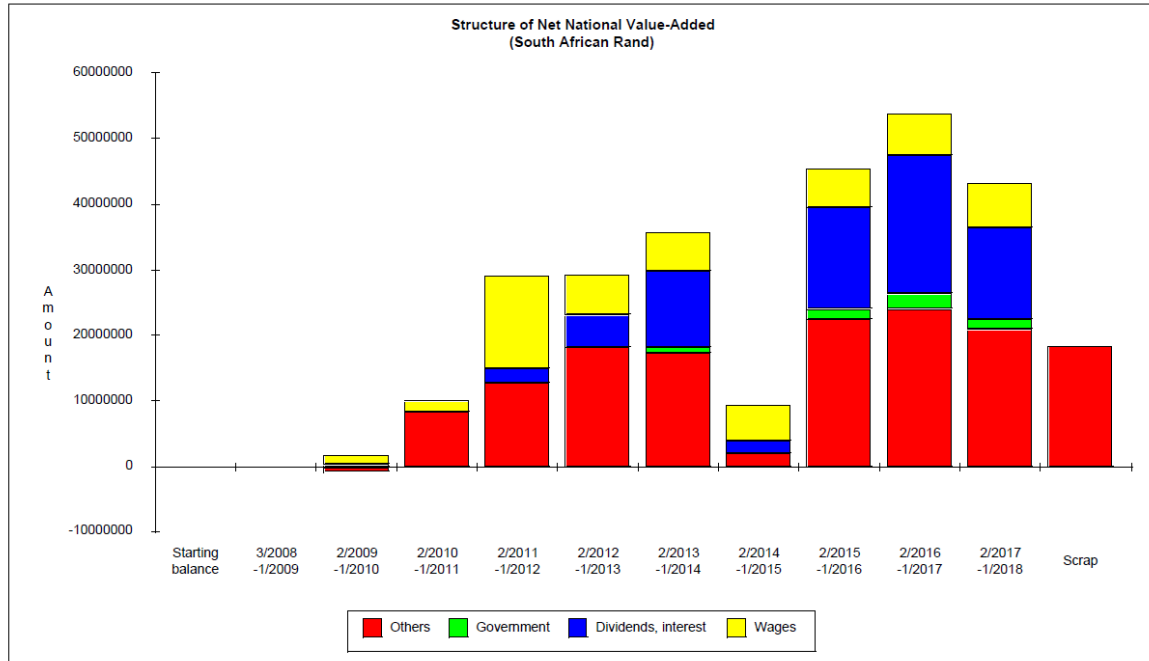
VALUE-ADDED CRITERIA

South African Rand

	2/2012 -1/2013	2/2013 -1/2014	2/2014 -1/2015	2/2015 -1/2016	2/2016 -1/2017	2/2017 -1/2018	Scrap 2/2018-1/2019
Value of output (incl. tax)	268,737,000.00	245,906,916.67	298,683,000.00	317,383,250.00	339,365,000.00	344,626,000.00	18,453,900.00
Material input	233,510,000.00	209,200,000.00	284,970,000.00	270,468,000.00	283,112,000.00	298,092,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	35,227,000.00	36,706,916.67	13,713,000.00	46,915,250.00	56,253,000.00	46,534,000.00	18,453,900.00
Investment	5,918,958.33	935,000.00	4,386,083.33	1,577,000.00	2,585,833.33	3,292,166.67	0.00
NET DOMESTIC VALUE-ADDED	29,308,041.67	35,771,916.67	9,326,916.67	45,338,250.00	53,667,166.67	43,241,833.33	18,453,900.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	29,308,041.67	35,771,916.67	9,326,916.67	45,338,250.00	53,667,166.67	43,241,833.33	18,453,900.00
Distribution of value-added (%)							
Wages to value-added	20.92	16.82	58.08	12.90	11.77	15.78	0.00
Dividends, interest to value-added	16.92	32.34	20.66	34.03	39.22	32.10	0.00
Government to value-added	0.00	2.46	0.00	3.61	4.36	3.57	0.00
Others to value-added	62.16	48.38	21.26	49.45	44.65	48.55	100.00
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							



	Net national value-added	Repatriated payment	Investment	Material input
Starting balance	0.00	0.00	0.00	0.00
3/2008-1/2009	-29,000.00	0.00	29,000.00	0.00
2/2009-1/2010	1,054,916.67	0.00	235,083.33	5,642,000.00
2/2010-1/2011	9,997,833.33	0.00	921,166.67	18,078,000.00
2/2011-1/2012	29,078,625.00	0.00	5,541,375.00	117,807,000.00
2/2012-1/2013	29,308,041.67	0.00	5,918,958.33	233,510,000.00
2/2013-1/2014	35,771,916.67	0.00	935,000.00	209,200,000.00
2/2014-1/2015	9,326,916.67	0.00	4,386,083.33	284,970,000.00
2/2015-1/2016	45,338,250.00	0.00	1,577,000.00	270,468,000.00
2/2016-1/2017	53,667,166.67	0.00	2,585,833.33	283,112,000.00
2/2017-1/2018	43,241,833.33	0.00	3,292,166.67	298,092,000.00
Scrap	18,453,900.00	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
Starting balance	0.00	0.00	0.00	0.00
3/2008-1/2009	-29,028.00	28.00	0.00	0.00
2/2009-1/2010	-599,671.23	28.00	365,559.90	1,289,000.00
2/2010-1/2011	8,265,314.91	28.00	48,440.42	1,684,050.00
2/2011-1/2012	12,704,806.75	28.00	2,345,555.25	14,028,235.00
2/2012-1/2013	18,217,299.85	28.00	4,958,543.82	6,132,170.00
2/2013-1/2014	17,306,467.62	880,122.67	11,569,251.38	6,016,075.00
2/2014-1/2015	1,982,930.33	28.00	1,927,083.33	5,416,875.00
2/2015-1/2016	22,421,468.60	1,638,919.01	15,427,102.39	5,850,760.00
2/2016-1/2017	23,960,912.77	2,338,762.09	21,048,606.81	6,318,885.00
2/2017-1/2018	20,992,577.43	1,542,558.29	13,882,772.61	6,823,925.00
Scrap	18,453,900.00	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS									
South African Rand									
	Present value	Grand total	Starting balance	3/2008-1/2009	2/2009-1/2010	2/2010-1/2011	2/2011-1/2012	2/2012-1/2013	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	45,627,707.86	76,252,000.00	0.00	6,932,000.00	13,864,000.00	6,932,000.00	6,932,000.00	6,932,000.00	6,932,000.00
Indirect foreign exchange outflows	37,136,688.95	62,062,000.00	0.00	5,642,000.00	11,284,000.00	5,642,000.00	5,642,000.00	5,642,000.00	5,642,000.00
NET FOREIGN INDIRECT EFFECTS	8,491,018.92	14,190,000.00	0.00	1,290,000.00	2,580,000.00	1,290,000.00	1,290,000.00	1,290,000.00	1,290,000.00
NET FOREIGN EXCHANGE EFFECTS	8,491,018.92	14,190,000.00	0.00	1,290,000.00	2,580,000.00	1,290,000.00	1,290,000.00	1,290,000.00	1,290,000.00

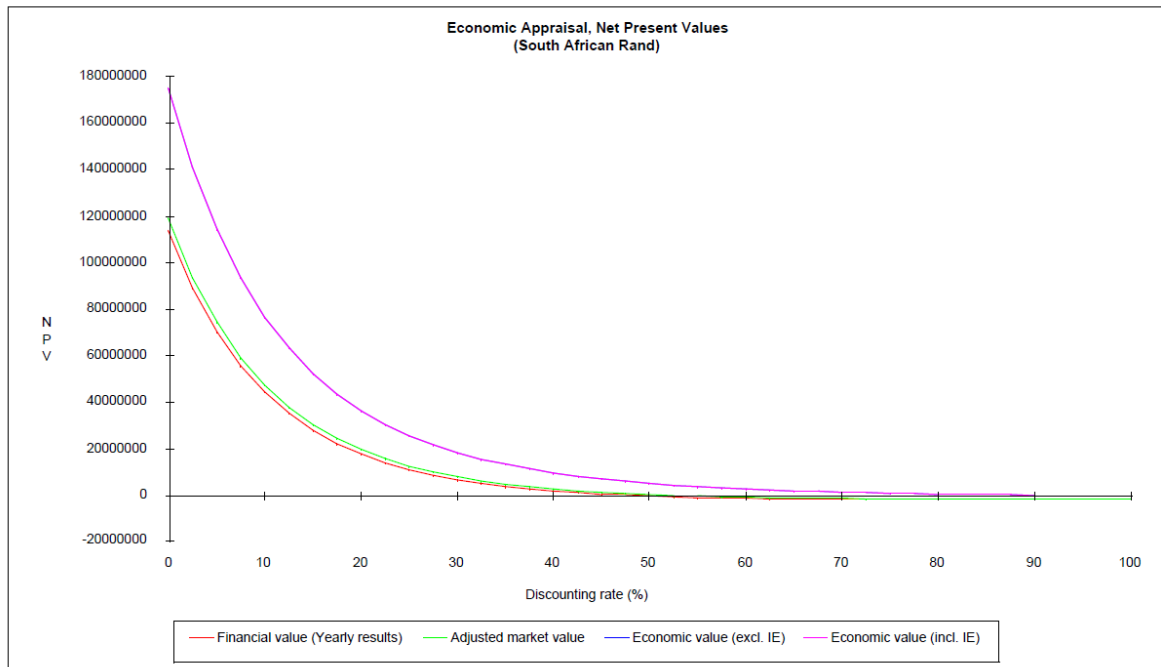
NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	2/2013 -1/2014	2/2014 -1/2015	2/2015 -1/2016	2/2016 -1/2017	2/2017 -1/2018	Scrap 2/2018-1/2019
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	6,932,000.00	6,932,000.00	6,932,000.00	6,932,000.00	6,932,000.00	0.00
Indirect foreign exchange outflows	5,642,000.00	5,642,000.00	5,642,000.00	5,642,000.00	5,642,000.00	0.00
NET FOREIGN INDIRECT EFFECTS	1,290,000.00	1,290,000.00	1,290,000.00	1,290,000.00	1,290,000.00	0.00
NET FOREIGN EXCHANGE EFFECTS	1,290,000.00	1,290,000.00	1,290,000.00	1,290,000.00	1,290,000.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	51,990,286.81	0.00	0.00	0.00
Indirect employment	214.00	321.00	535.00	0.00	0.00	0.00	0.00
Total employment	214.00	321.00	535.00	51,990,286.81	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	19.05	12.70	12.70

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	936,661,635.72	1.00	936,661,635.72	98.34	184,262,973.66	1,120,924,609.38	0.00
Inflow operation	921,093,796.94	1.00	921,093,796.94	100.00	184,262,973.66	1,105,356,770.60	0.00
Other income	15,567,838.78	1.00	15,567,838.78	0.00	0.00	15,567,838.78	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	898,678,712.42	1.00	895,915,293.80	88.01	157,744,307.07	1,053,659,600.87	0.00
Increase in fixed assets	5,226,483.46	1.00	5,226,483.46	0.00	0.00	5,226,483.46	0.00
Increase in net working capital	23,619,959.78	1.00	23,619,959.78	0.00	0.00	23,619,959.78	0.00
Operating costs	869,832,107.54	1.00	867,068,850.57	90.94	157,744,307.07	1,024,813,157.64	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	161.65	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	37,982,923.29	1.07	40,746,341.92	325.33	26,518,666.59	67,265,008.51	0.00
INTERNAL RATE OF RETURN	48.37	---	52.59	---	---	92.05	---
BENEFIT-COST RATIO	1.04	---	1.05	---	---	1.06	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	1,120,924,609.38
Inflow operation	1,105,356,770.60
Other income	15,567,838.78
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	1,053,659,600.87
Increase in fixed assets	5,226,483.46
Increase in net working capital	23,619,959.78
Operating costs	1,024,813,157.64
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	67,265,008.51
INTERNAL RATE OF RETURN	92.05
BENEFIT-COST RATIO	1.06



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	113,305,145.00	118,661,422.50	174,787,089.97	174,787,089.97
10.00 %	44,376,208.22	47,393,793.10	76,707,911.30	76,707,911.30
20.00 %	17,779,751.81	19,639,228.73	36,504,784.97	36,504,784.97
30.00 %	6,739,904.33	7,967,565.90	18,452,796.70	18,452,796.70
40.00 %	1,917,582.00	2,772,722.68	9,708,112.94	9,708,112.94
50.00 %	-245,265.18	376,093.60	5,197,293.08	5,197,293.08
60.00 %	-1,208,024.44	-740,976.16	2,747,881.66	2,747,881.66
70.00 %	-1,607,395.19	-1,246,489.77	1,362,346.91	1,362,346.91
80.00 %	-1,735,743.92	-1,450,380.65	553,925.52	553,925.52
90.00 %	-1,733,010.20	-1,502,966.08	72,124.13	72,124.13
100.00 %	-1,668,351.85	-1,479,808.57	-218,101.61	-218,101.61

Project 10

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 10 - HG
 Project description: Establishment of a solar water heating components manufacturing plant in Gauteng
 Date and time:
 Project classification: New project
 Construction phase: 3/2011 - 2/2012
 Length: 1 years
 Production phase: 3/2012 - 1/2019
 Length: 7 years
 Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	2,500,000.00	2,200,000.00	4,700,000.00
Total pre-production expenditures	767,097.33	0.00	767,097.33
<i>Pre-production expenditures (net of interest)</i>	706,000.00	0.00	706,000.00
<i>Interest</i>	61,097.33	0.00	61,097.33
Increase in net working capital	0.00	25,004,498.33	25,004,498.33
TOTAL INVESTMENT COSTS	3,267,097.33	27,204,498.33	30,471,595.67

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	3,466,000.00	1,534,000.00	5,000,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	3,466,000.00	1,534,000.00	5,000,000.00
Total long-term loans	0.00	2,200,000.00	2,200,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	2,200,000.00	2,200,000.00
Total short-term loans	1,088,000.00	4,514,000.00	5,602,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	1,088,000.00	4,514,000.00	5,602,000.00
Accounts payable	0.00	0.00	0.00
TOTAL SOURCES OF FINANCE	4,554,000.00	8,248,000.00	12,802,000.00

INCOME AND COSTS, OPERATIONS

	First year 3/2012-1/2013	Reference year 3/2012-1/2013	Last year 2/2018-1/2019
SALES REVENUE	0.00	0.00	70,658,000.00
Factory costs	0.00	0.00	60,035,995.00
Administrative overhead costs	0.00	0.00	1,750,000.00
OPERATING COSTS	0.00	0.00	61,785,995.00
Depreciation	876,333.33	876,333.33	470,000.00
Financial costs	364,154.84	364,154.84	0.00
TOTAL PRODUCTION COSTS	1,240,488.17	1,240,488.17	62,255,995.00
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	1,240,488.17	1,240,488.17	62,255,995.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-1,240,488.17	-1,240,488.17	8,402,005.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-1,240,488.17	-1,240,488.17	8,402,005.00

SUMMARY SHEET

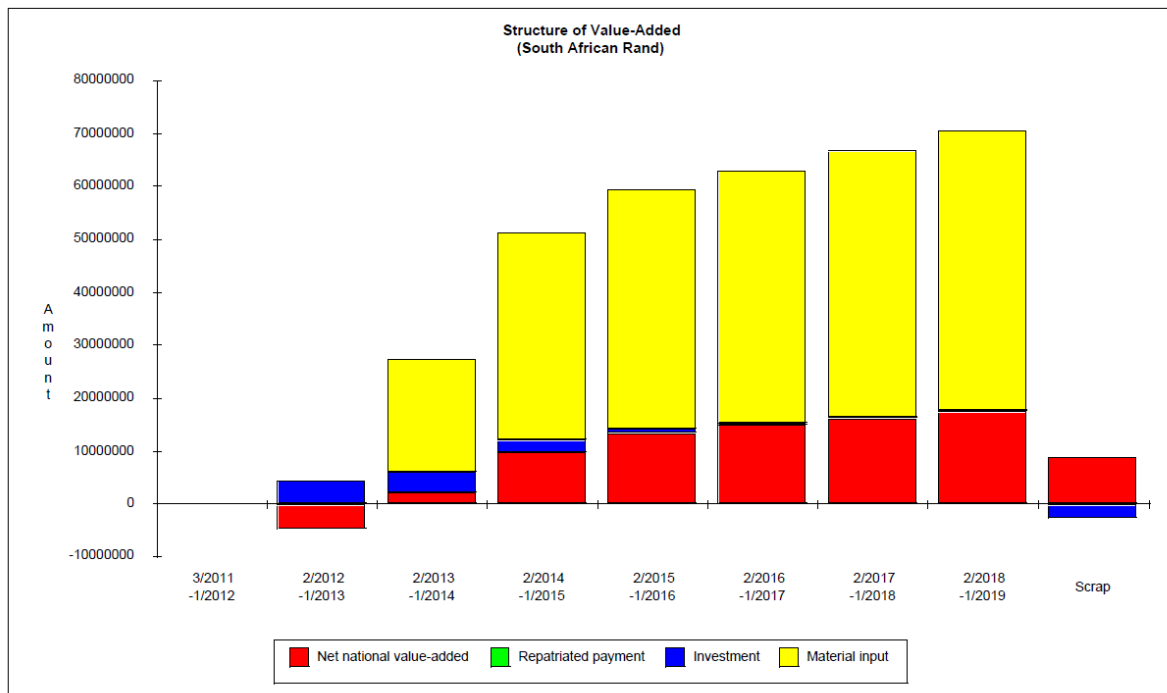
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	8,402,005.00
Income (corporate) tax	0.00	0.00	2,352,561.40
NET PROFIT	-1,240,488.17	-1,240,488.17	6,049,443.60

RATIOS

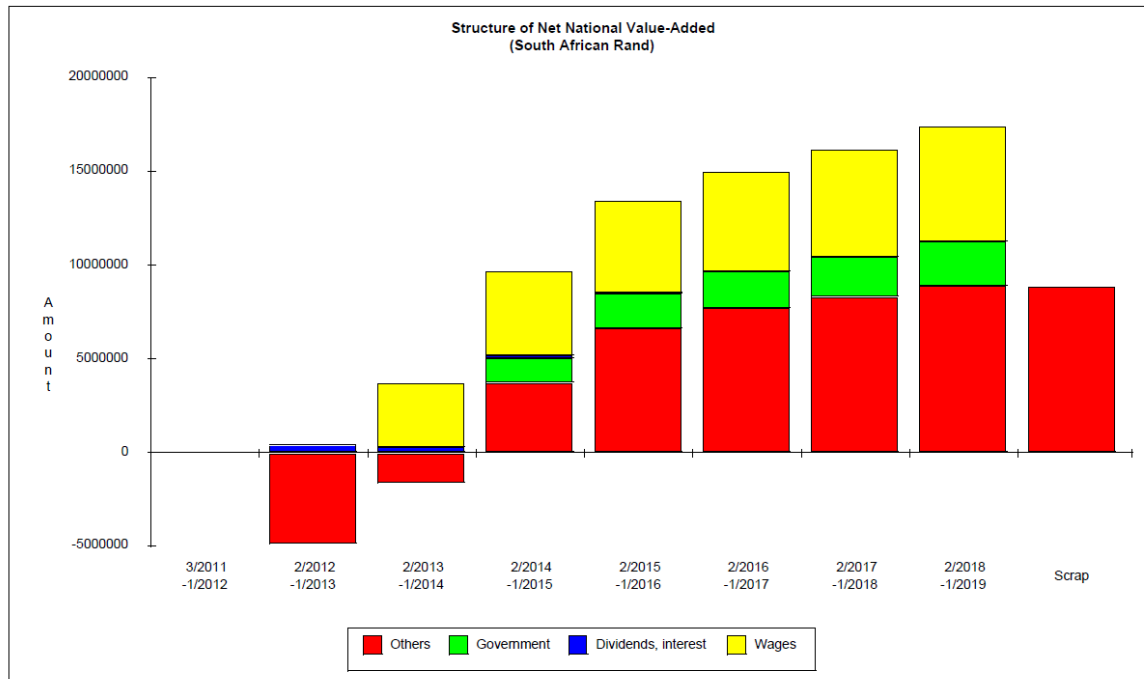
Net Present Value of Total Capital Invested	at 10.00%	7,440,418.86
Internal rate of return on investment (IRR)	19.72%	
Modified IRR on investment	19.72%	
Net Present Value of Total Equity Capital Invested	at 10.00%	7,617,875.54
Internal rate of return on equity (IRRE)	21.63%	
Modified IRRE on equity	21.63%	
Net present values discounted to	1/2012	

VALUE-ADDED CRITERIA								
South African Rand								
	Present value	Grand total	3/2011 -1/2012	2/2012 -1/2013	2/2013 -1/2014	2/2014 -1/2015	2/2015 -1/2016	2/2016 -1/2017
Value of output (incl. tax)	202,689,681.98	344,314,097.33	0.00	0.00	27,260,000.00	51,304,000.00	59,326,000.00	62,886,000.00
Material input	151,905,763.45	256,518,000.00	0.00	0.00	21,235,000.00	39,321,000.00	45,206,000.00	47,640,000.00
GROSS DOMESTIC VALUE-ADDED	50,783,918.54	87,796,097.33	0.00	0.00	6,025,000.00	11,983,000.00	14,120,000.00	15,246,000.00
Investment	8,545,530.88	9,815,166.67	0.00	4,406,000.00	3,879,916.54	2,312,291.79	756,332.96	326,875.63
NET DOMESTIC VALUE-ADDED	42,238,387.65	77,980,930.67	0.00	-4,406,000.00	2,145,083.46	9,670,708.21	13,363,667.04	14,919,124.38
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	42,238,387.65	77,980,930.67	0.00	-4,406,000.00	2,145,083.46	9,670,708.21	13,363,667.04	14,919,124.38
Distribution of value-added (%)								
Wages to value-added	42.35	38.32	0.00	0.00	159.99	46.63	36.43	35.25
Dividends, interest to value-added	1.82	1.21	0.00	-9.65	12.88	1.65	0.44	0.15
Government to value-added	12.88	12.33	0.00	0.00	0.00	13.62	13.50	13.26
Others to value-added	42.95	48.14	0.00	109.65	-72.88	38.11	49.62	51.34
Absolute efficiency test								
PV (NNVA) to PV (wages)	2.36							
Relative efficiency test								
PV (NNVA) to PV (investment)	4.94							
PV (NNVA) to PV (foreign exchange)	0.00							
PV (NNVA) to PV (skilled labour)	2.36							
PV (NNVA) to PV (labour)	2.36							

VALUE-ADDED CRITERIA			
South African Rand			
	2/2017 -1/2018	2/2018 -1/2019	Scrap 2/2019-1/2020
Value of output (incl. tax)	66,659,000.00	70,658,000.00	6,221,097.33
Material input	50,206,000.00	52,910,000.00	0.00
GROSS DOMESTIC VALUE-ADDED	16,453,000.00	17,748,000.00	6,221,097.33
Investment	344,541.00	363,625.21	-2,574,416.46
NET DOMESTIC VALUE-ADDED	16,108,459.00	17,384,374.79	8,795,513.79
Repatriated payment	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	16,108,459.00	17,384,374.79	8,795,513.79
Distribution of value-added (%)			
Wages to value-added	35.26	35.28	0.00
Dividends, interest to value-added	0.00	0.00	0.00
Government to value-added	13.42	13.53	0.00
Others to value-added	51.32	51.18	100.00
Absolute efficiency test			
PV (NNVA) to PV (wages)			
Relative efficiency test			
PV (NNVA) to PV (investment)			
PV (NNVA) to PV (foreign exchange)			
PV (NNVA) to PV (skilled labour)			
PV (NNVA) to PV (labour)			



	Net national value-added	Repatriated payment	Investment	Material input
3/2011-1/2012	0.00	0.00	0.00	0.00
2/2012-1/2013	-4,406,000.00	0.00	4,406,000.00	0.00
2/2013-1/2014	2,145,083.46	0.00	3,879,916.54	21,235,000.00
2/2014-1/2015	9,670,708.21	0.00	2,312,291.79	39,321,000.00
2/2015-1/2016	13,363,667.04	0.00	756,332.96	45,206,000.00
2/2016-1/2017	14,919,124.38	0.00	326,875.63	47,640,000.00
2/2017-1/2018	16,108,459.00	0.00	344,541.00	50,206,000.00
2/2018-1/2019	17,384,374.79	0.00	363,625.21	52,910,000.00
Scrap	8,795,513.79	0.00	-2,574,416.46	0.00



	Others	Government	Dividends, interest	Wages
3/2011-1/2012	0.00	0.00	0.00	0.00
2/2012-1/2013	-4,831,252.17	0.00	425,252.17	0.00
2/2013-1/2014	-1,563,252.64	0.00	276,339.10	3,431,997.00
2/2014-1/2015	3,685,025.88	1,316,901.31	159,781.02	4,509,000.00
2/2015-1/2016	6,631,399.14	1,804,340.26	58,936.64	4,868,991.00
2/2016-1/2017	7,659,952.55	1,977,822.07	22,343.75	5,259,006.00
2/2017-1/2018	8,266,127.45	2,162,093.29	248.26	5,679,990.00
2/2018-1/2019	8,897,818.39	2,352,561.40	0.00	6,133,995.00
Scrap	8,795,513.79	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS				3/2011	2/2012	2/2013	2/2014	2/2015
South African Rand		Present value	Grand total	-1/2012	-1/2013	-1/2014	-1/2015	-1/2016
TOTAL FOREIGN EXCHANGE INFLOW		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income		0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others		0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows		101,195,824.49	163,560,000.00	0.00	0.00	27,260,000.00	27,260,000.00	27,260,000.00
Indirect foreign exchange outflows		88,709,282.19	139,910,000.00	0.00	5,000,000.00	23,735,000.00	23,735,000.00	23,735,000.00
NET FOREIGN INDIRECT EFFECTS		12,486,542.31	23,650,000.00	0.00	-5,000,000.00	3,525,000.00	3,525,000.00	3,525,000.00
NET FOREIGN EXCHANGE EFFECTS		12,486,542.31	23,650,000.00	0.00	-5,000,000.00	3,525,000.00	3,525,000.00	3,525,000.00

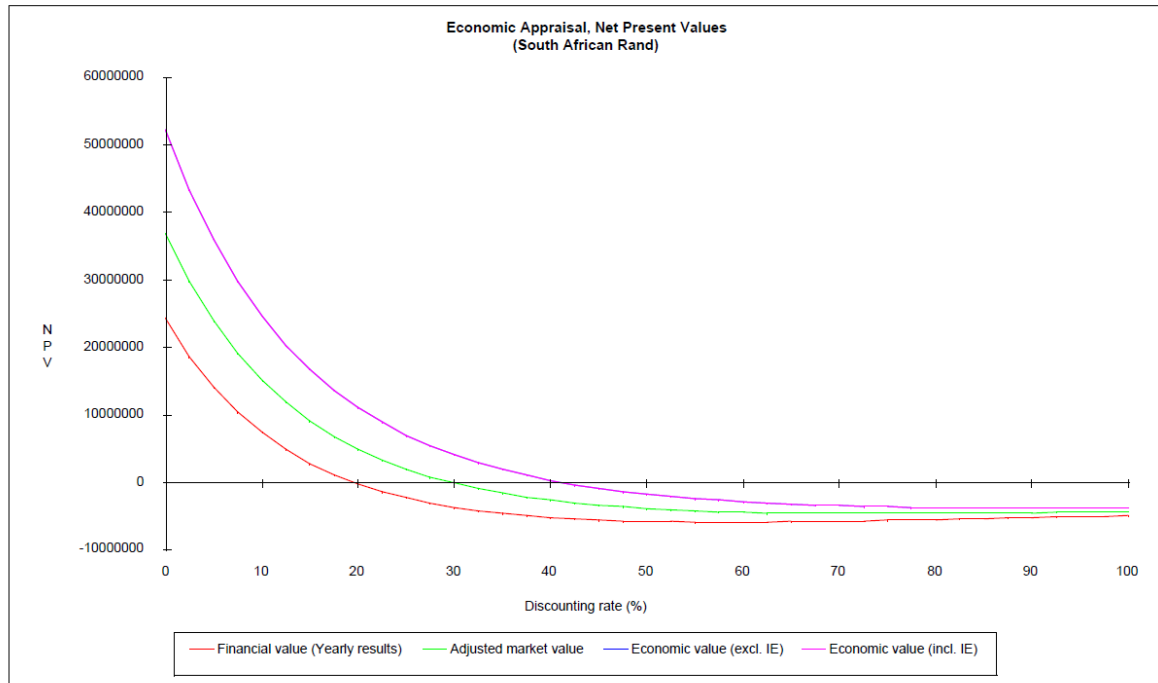
NET FOREIGN EXCHANGE EFFECTS				
South African Rand				
	2/2016 -1/2017	2/2017 -1/2018	2/2018 -1/2019	Scrap 2/2019-1/2020
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	27,260,000.00	27,260,000.00	27,260,000.00	0.00
Indirect foreign exchange outflows	21,235,000.00	21,235,000.00	21,235,000.00	0.00
NET FOREIGN INDIRECT EFFECTS	6,025,000.00	6,025,000.00	6,025,000.00	0.00
NET FOREIGN EXCHANGE EFFECTS	6,025,000.00	6,025,000.00	6,025,000.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	30,471,595.67	0.00	0.00	0.00
Indirect employment	10.00	17.00	27.00	0.00	0.00	0.00	0.00
Total employment	10.00	17.00	27.00	30,471,595.67	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	13.41	7.89	7.89

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	212,182,531.11	1.00	212,182,531.11	94.17	39,974,039.66	252,156,570.77	0.00
Inflow operation	199,822,239.05	1.00	199,822,239.05	100.00	39,974,039.66	239,796,278.71	0.00
Other income	12,360,292.06	1.00	12,360,292.06	0.00	0.00	12,360,292.06	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	206,484,899.03	0.96	199,257,021.79	78.30	31,211,427.10	230,468,448.89	0.00
Increase in fixed assets	4,800,673.66	1.00	4,800,673.66	85.69	822,982.64	5,623,656.30	0.00
Increase in net working capital	17,871,783.35	1.00	17,871,783.35	0.00	0.00	17,871,783.35	0.00
Operating costs	178,373,541.54	0.99	176,584,564.79	86.02	30,388,444.46	206,973,009.24	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	5,438,900.48	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	5,697,632.08	2.27	12,925,509.31	338.88	8,762,612.56	21,688,121.88	0.00
INTERNAL RATE OF RETURN	19.72	---	29.79	---	---	41.35	---
BENEFIT-COST RATIO	1.03	---	1.06	---	---	1.09	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	252,156,570.77
Inflow operation	239,796,278.71
Other income	12,360,292.06
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	230,468,448.89
Increase in fixed assets	6,623,656.30
Increase in net working capital	17,871,783.35
Operating costs	206,973,009.24
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	21,688,121.88
INTERNAL RATE OF RETURN	41.35
BENEFIT-COST RATIO	1.09



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	24,269,136.00	36,871,152.23	24,249,842.38	52,249,842.38
10.00 %	7,440,418.86	15,234,865.21	24,696,695.16	24,696,695.16
20.00 %	-143,911.37	4,970,649.80	11,120,228.01	11,120,228.01
30.00 %	-3,596,335.19	-73,778.81	4,100,937.69	4,100,937.69
40.00 %	-5,107,931.35	-2,582,681.52	351,420.99	351,420.99
50.00 %	-5,676,893.59	-3,804,998.93	-1,685,048.82	-1,685,048.82
60.00 %	-5,780,685.63	-4,353,425.32	-2,787,793.57	-2,787,793.57
70.00 %	-5,656,501.65	-4,541,872.77	-3,365,622.29	-3,365,622.29
80.00 %	-5,425,456.21	-4,536,929.93	-3,641,590.56	-3,641,590.56
90.00 %	-5,150,421.89	-4,429,476.02	-3,741,485.84	-3,741,485.84
100.00 %	-4,864,146.73	-4,270,098.59	-3,738,211.59	-3,738,211.59

Project 11

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 11 - KSO
 Project description: Establishment of a concentrated solar power plant in the Northern Cape Province.
 Date and time:
 Project classification: New project
 Construction phase: 7/2012 - 6/2014
 Length: 2 years
 Production phase: 7/2014 - 11/2028
 Length: 15 years
 Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	3,719,000,000.00	0.00	3,719,000,000.00
Total pre-production expenditures	919,859,553.88	494,984,768.76	1,414,844,322.65
<i>Pre-production expenditures (net of interest)</i>	0.00	0.00	0.00
<i>Interest</i>	919,859,553.88	494,984,768.76	1,414,844,322.65
Increase in net working capital	0.00	-3,575,000.00	-3,575,000.00
TOTAL INVESTMENT COSTS	4,638,859,553.88	491,409,768.76	5,130,269,322.65

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	341,000,000.00	0.00	341,000,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	341,000,000.00	0.00	341,000,000.00
Total long-term loans	3,187,470,480.15	415,457,677.25	3,602,928,157.41
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	3,187,470,480.15	415,457,677.25	3,602,928,157.41
Total short-term loans	1,235,212,397.27	79,527,091.51	1,314,739,488.78
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	1,235,212,397.27	79,527,091.51	1,314,739,488.78
Accounts payable	0.00	15,125,000.00	15,125,000.00
TOTAL SOURCES OF FINANCE	4,763,682,877.42	510,109,768.76	5,273,792,646.19

INCOME AND COSTS, OPERATIONS

	First year 7/2014-11/2014	Reference year 7/2014-11/2014	Last year 12/2027-11/2028
SALES REVENUE	0.00	0.00	1,076,000,000.00
Factory costs	0.00	0.00	99,000,000.00
Administrative overhead costs	0.00	0.00	0.00
OPERATING COSTS	0.00	0.00	99,000,000.00
Depreciation	154,125,000.00	154,125,000.00	0.00
Financial costs	0.00	0.00	69,068,132.78
TOTAL PRODUCTION COSTS	154,125,000.00	154,125,000.00	168,068,132.78
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	154,125,000.00	154,125,000.00	168,068,132.78
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-154,125,000.00	-154,125,000.00	907,931,867.22
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-154,125,000.00	-154,125,000.00	907,931,867.22

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	907,931,867.22
Income (corporate) tax	0.00	0.00	254,220,922.82
NET PROFIT	-154,125,000.00	-154,125,000.00	653,710,944.40

RATIOS

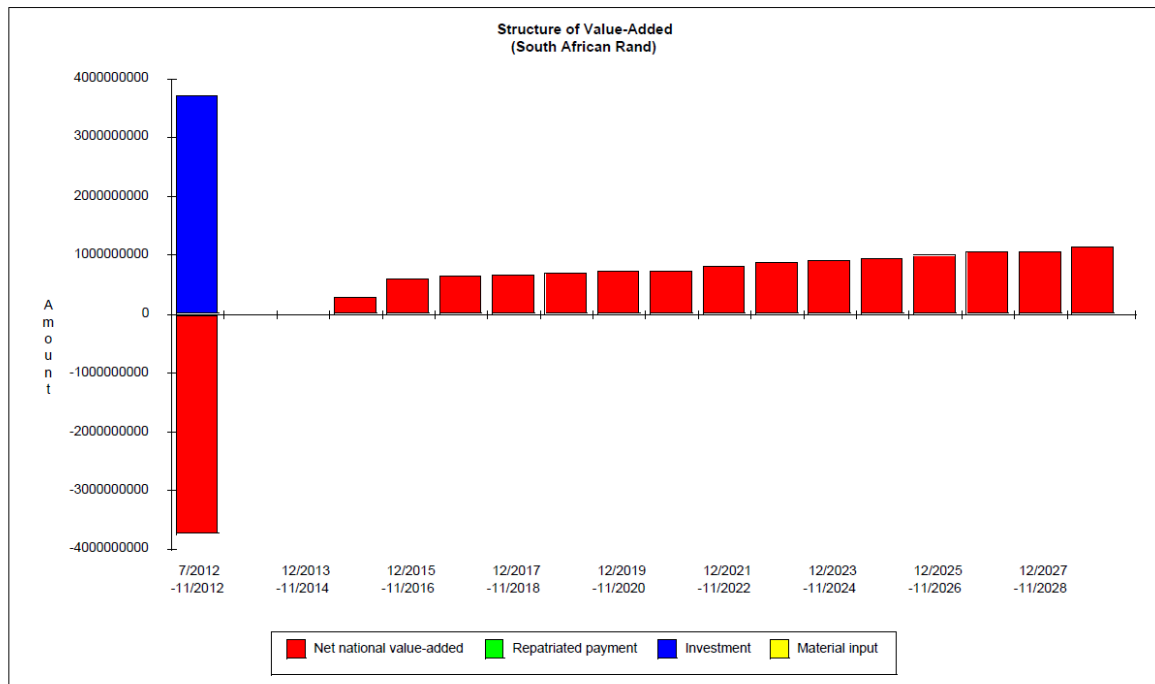
Net Present Value of Total Capital Invested	at 15.00%	-2,547,388,276.82
Internal rate of return on investment (IRR)	7.19%	
Modified IRR on investment	7.19%	
Net Present Value of Total Equity Capital Invested	at 17.00%	-948,455,001.52
Internal rate of return on equity (IRRE)	4.16%	
Modified IRRE on equity	4.16%	
Net present values discounted to	11/2013	

VALUE-ADDED CRITERIA						
South African Rand						
	Present value	Grand total	7/2012 -11/2012	12/2012 -11/2013	12/2013 -11/2014	12/2014 -11/2015
Value of output (incl. tax)	4,475,818,799.70	12,253,767,077.50	0.00	0.00	0.00	282,000,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	4,475,818,799.70	12,253,767,077.50	0.00	0.00	0.00	282,000,000.00
Investment	4,154,123,000.00	3,719,000,000.00	3,719,000,000.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	321,695,799.70	8,534,767,077.50	-3,719,000,000.00	0.00	0.00	282,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	321,695,799.70	8,534,767,077.50	-3,719,000,000.00	0.00	0.00	282,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	1,239.74	92.88	-5.06	0.00	0.00	213.31
Government to value-added	106.51	16.62	0.00	0.00	0.00	0.00
Others to value-added	-1,246.24	-9.51	105.06	0.00	0.00	-113.31
Absolute efficiency test						
PV (NNVA) to PV (wages)	0.00					
Relative efficiency test						
PV (NNVA) to PV (investment)	0.08					
PV (NNVA) to PV (foreign exchange)	0.00					
PV (NNVA) to PV (skilled labour)	0.00					
PV (NNVA) to PV (labour)	0.00					

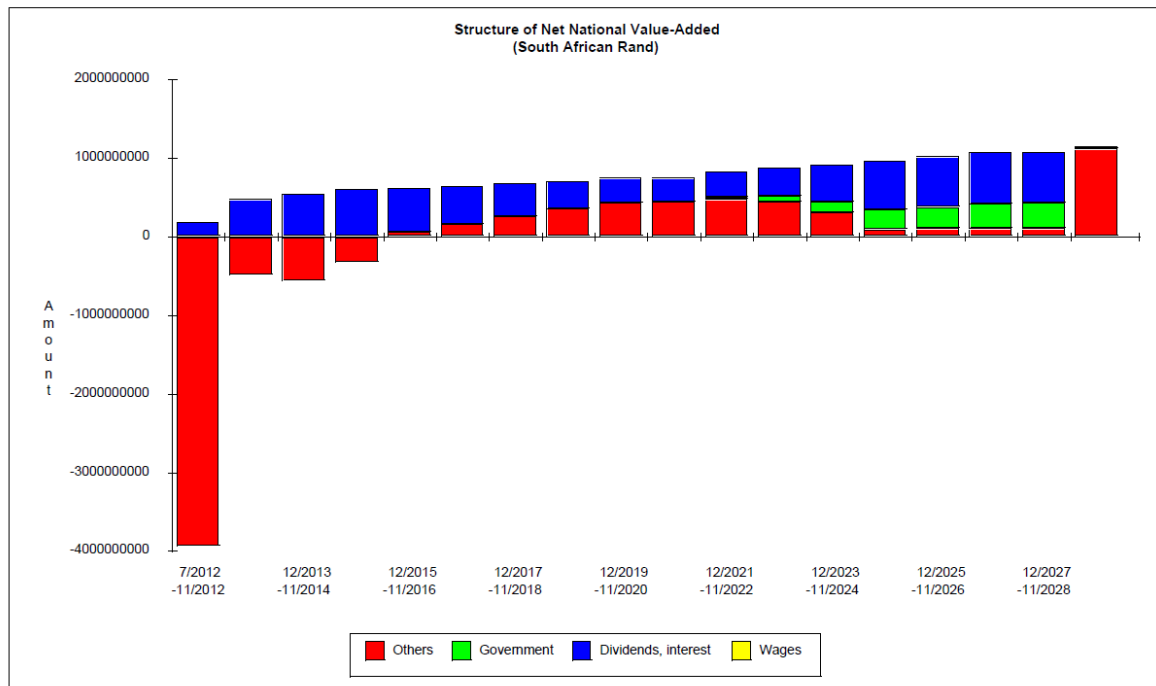
VALUE-ADDED CRITERIA						
South African Rand						
	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	12/2018 -11/2019	12/2019 -11/2020	12/2020 -11/2021
Value of output (incl. tax)	610,000,000.00	639,000,000.00	666,000,000.00	704,000,000.00	741,000,000.00	747,000,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	610,000,000.00	639,000,000.00	666,000,000.00	704,000,000.00	741,000,000.00	747,000,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	610,000,000.00	639,000,000.00	666,000,000.00	704,000,000.00	741,000,000.00	747,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	610,000,000.00	639,000,000.00	666,000,000.00	704,000,000.00	741,000,000.00	747,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	90.65	75.16	61.19	49.05	42.46	40.00
Government to value-added	0.00	0.00	0.00	0.00	0.00	1.09
Others to value-added	9.35	24.84	38.81	50.95	57.54	58.91
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA						
South African Rand						
	12/2021 -11/2022	12/2022 -11/2023	12/2023 -11/2024	12/2024 -11/2025	12/2025 -11/2026	12/2026 -11/2027
Value of output (incl. tax)	828,000,000.00	869,000,000.00	916,000,000.00	955,000,000.00	1,014,000,000.00	1,067,000,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	828,000,000.00	869,000,000.00	916,000,000.00	955,000,000.00	1,014,000,000.00	1,067,000,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	828,000,000.00	869,000,000.00	916,000,000.00	955,000,000.00	1,014,000,000.00	1,067,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	828,000,000.00	869,000,000.00	916,000,000.00	955,000,000.00	1,014,000,000.00	1,067,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	38.79	40.34	50.88	64.49	63.07	61.79
Government to value-added	4.49	8.07	16.39	26.07	27.49	28.72
Others to value-added	56.72	51.59	32.73	9.43	9.44	9.49
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA		
South African Rand		
	12/2027 -11/2028	Scrap 12/2028-11/2029
Value of output (incl. tax)	1,076,000,000.00	1,139,767,077.50
Material input	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	1,076,000,000.00	1,139,767,077.50
Investment	0.00	0.00
NET DOMESTIC VALUE-ADDED	1,076,000,000.00	1,139,767,077.50
Repatriated payment	0.00	0.00
NET NATIONAL VALUE-ADDED	1,076,000,000.00	1,139,767,077.50
Distribution of value-added (%)		
Wages to value-added	0.00	0.00
Dividends, interest to value-added	60.55	2.02
Government to value-added	29.64	0.00
Others to value-added	9.81	97.98
Absolute efficiency test		
PV (NNVA) to PV (wages)		
Relative efficiency test		
PV (NNVA) to PV (investment)		
PV (NNVA) to PV (foreign exchange)		
PV (NNVA) to PV (skilled labour)		
PV (NNVA) to PV (labour)		



	Net national value-added	Repatriated payment	Investment	Material input
7/2012-11/2012	-3,719,000,000.00	0.00	3,719,000,000.00	0.00
12/2012-11/2013	0.00	0.00	0.00	0.00
12/2013-11/2014	0.00	0.00	0.00	0.00
12/2014-11/2015	282,000,000.00	0.00	0.00	0.00
12/2015-11/2016	610,000,000.00	0.00	0.00	0.00
12/2016-11/2017	639,000,000.00	0.00	0.00	0.00
12/2017-11/2018	666,000,000.00	0.00	0.00	0.00
12/2018-11/2019	704,000,000.00	0.00	0.00	0.00
12/2019-11/2020	741,000,000.00	0.00	0.00	0.00
12/2020-11/2021	747,000,000.00	0.00	0.00	0.00
12/2021-11/2022	828,000,000.00	0.00	0.00	0.00
12/2022-11/2023	869,000,000.00	0.00	0.00	0.00
12/2023-11/2024	916,000,000.00	0.00	0.00	0.00
12/2024-11/2025	955,000,000.00	0.00	0.00	0.00
12/2025-11/2026	1,014,000,000.00	0.00	0.00	0.00
12/2026-11/2027	1,067,000,000.00	0.00	0.00	0.00
12/2027-11/2028	1,076,000,000.00	0.00	0.00	0.00
Scrap	1,139,767,077.50	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
7/2012-11/2012	-3,907,223,798.68	0.00	188,223,798.68	0.00
12/2012-11/2013	-467,175,686.62	0.00	467,175,686.62	0.00
12/2013-11/2014	-543,894,683.71	0.00	543,894,683.71	0.00
12/2014-11/2015	-319,546,501.91	0.00	601,546,501.91	0.00
12/2015-11/2016	57,052,194.08	0.00	552,947,805.92	0.00
12/2016-11/2017	158,755,068.64	0.00	480,244,931.36	0.00
12/2017-11/2018	258,457,943.21	0.00	407,542,056.79	0.00
12/2018-11/2019	358,659,336.11	0.00	345,340,663.89	0.00
12/2019-11/2020	426,356,284.01	0.00	314,643,715.99	0.00
12/2020-11/2021	440,066,703.27	8,133,267.31	298,800,029.42	0.00
12/2021-11/2022	469,662,121.29	37,183,051.17	321,154,827.54	0.00
12/2022-11/2023	448,336,739.32	70,096,915.02	350,566,345.66	0.00
12/2023-11/2024	299,852,057.34	150,126,208.88	466,021,733.77	0.00
12/2024-11/2025	90,103,655.37	249,001,674.74	615,894,669.89	0.00
12/2025-11/2026	95,713,473.39	278,754,018.60	639,532,508.01	0.00
12/2026-11/2027	101,280,091.42	306,398,682.46	659,321,226.12	0.00
12/2027-11/2028	105,537,109.44	318,938,306.32	651,524,584.24	0.00
Scrap	1,116,744,366.57	0.00	23,022,710.93	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	7/2012 -11/2012	12/2012 -11/2013	12/2013 -11/2014	12/2014 -11/2015	12/2015 -11/2016
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	1,699,372.25	3,948,000.00	0.00	0.00	0.00	282,000.00	282,000.00
Indirect foreign exchange outflows	5,408,865.00	5,017,500.00	3,345,000.00	1,672,500.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	-3,709,492.75	-1,069,500.00	-3,345,000.00	-1,672,500.00	0.00	282,000.00	282,000.00
NET FOREIGN EXCHANGE EFFECTS	-3,709,492.75	-1,069,500.00	-3,345,000.00	-1,672,500.00	0.00	282,000.00	282,000.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	12/2016 -11/2017	12/2017 -11/2018	12/2018 -11/2019	12/2019 -11/2020	12/2020 -11/2021	12/2021 -11/2022	12/2022 -11/2023
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00
NET FOREIGN EXCHANGE EFFECTS	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00

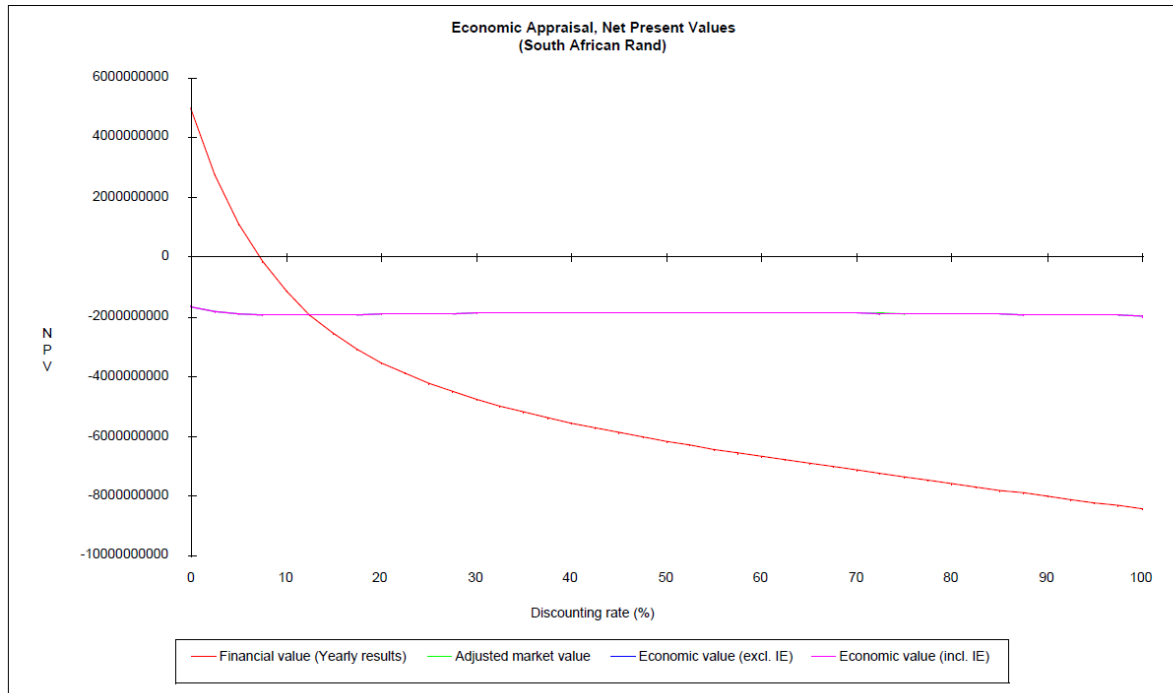
NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	12/2023 -11/2024	12/2024 -11/2025	12/2025 -11/2026	12/2026 -11/2027	12/2027 -11/2028	12/2028-11/2029	Scrap
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	0.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	0.00	0.00
NET FOREIGN EXCHANGE EFFECTS	282,000.00	282,000.00	282,000.00	282,000.00	282,000.00	0.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	5,130,269,322.65	0.00	0.00	0.00
Indirect employment	290.00	437.00	727.00	0.00	0.00	0.00	0.00
Total employment	290.00	437.00	727.00	5,130,269,322.65	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	0.00	0.00	0.00

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	4,475,138,847.39	0.05	220,358,737.14	1.93	852,012.27	221,210,749.42	0.00
Inflow operation	4,259,039,149.40	0.00	4,259,039.15	100.00	852,012.27	5,111,051.42	0.00
Other income	216,099,697.99	1.00	216,099,697.99	0.00	0.00	216,099,697.99	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	6,155,213,748.85	0.35	2,149,477,165.38	0.17	747,452.35	2,150,224,617.73	0.00
Increase in fixed assets	5,491,228,705.87	0.32	1,758,600,070.87	0.21	747,452.35	1,759,347,523.22	0.00
Increase in net working capital	-2,095,129.77	1.00	-2,095,129.77	0.00	0.00	-2,095,129.77	0.00
Operating costs	392,972,224.28	1.00	392,972,224.28	0.00	0.00	392,972,224.28	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	273,107,948.47	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	-1,680,074,901.46	1.15	-1,929,118,428.23	-0.03	104,559.92	-1,929,013,868.31	0.00
INTERNAL RATE OF RETURN	7.19	---	-8.52	---	---	-8.51	---
BENEFIT-COST RATIO	0.73	---	0.10	---	---	0.10	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	221,210,749.42
Inflow operation	5,111,051.42
Other income	216,099,697.99
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	2,150,224,617.73
Increase in fixed assets	1,759,347,523.22
Increase in net working capital	-2,095,129.77
Operating costs	392,972,224.28
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	-1,929,013,868.31
INTERNAL RATE OF RETURN	-8.51
BENEFIT-COST RATIO	0.10



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	4,965,152,443.82	-1,665,308,245.15	-1,663,754,072.22	-1,663,754,072.22
10.00 %	-1,127,971,829.48	-1,926,539,891.23	-1,926,539,891.23	-1,926,539,891.23
20.00 %	-3,506,881,271.09	-1,903,322,067.64	-1,903,620,963.98	-1,903,620,963.98
30.00 %	-4,732,288,017.65	-1,863,229,042.07	-1,863,795,287.06	-1,863,795,287.06
40.00 %	-5,527,645,219.80	-1,841,062,973.92	-1,841,797,822.86	-1,841,797,822.86
50.00 %	-6,136,519,382.73	-1,836,053,630.51	-1,836,913,296.44	-1,836,913,296.44
60.00 %	-6,654,163,696.51	-1,843,723,584.63	-1,844,686,160.26	-1,844,686,160.26
70.00 %	-7,122,783,550.30	-1,860,504,258.16	-1,861,557,666.34	-1,861,557,666.34
80.00 %	-7,563,084,015.30	-1,883,956,005.03	-1,885,093,053.84	-1,885,093,053.84
90.00 %	-7,986,089,475.83	-1,912,434,451.67	-1,913,650,587.59	-1,913,650,587.59
100.00 %	-8,398,067,714.88	-1,944,807,705.00	-1,946,099,900.07	-1,946,099,900.07

Project 12

SUMMARY SHEET

Project title: Project 12 - LPM
 Project description: Establishment of a platinum mining operation.
 Date and time:

Project classification: Expansion/rehabilitation project

Construction phase: 1/2007 - 12/2016
 Length: 10 years
 Production phase: 1/2017 - 11/2051
 Length: 35 years

Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	3,424,341,000.00	32,974,750,660.03	36,399,091,660.03
Total pre-production expenditures	88,147,985.52	825,818,552.34	913,966,537.87
<i>Pre-production expenditures (net of interest)</i>	12,780,000.00	0.00	12,780,000.00
<i>Interest</i>	75,367,985.52	825,818,552.34	901,186,537.87
Increase in net working capital	0.00	916,669,708.33	916,669,708.33
TOTAL INVESTMENT COSTS	3,512,488,985.52	34,717,238,920.71	38,229,727,906.23

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	2,887,724,985.52	17,236,000.00	2,904,960,985.52
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	2,887,724,985.52	17,236,000.00	2,904,960,985.52
Total long-term loans	642,000,000.00	6,894,798,552.34	7,536,798,552.34
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	642,000,000.00	6,894,798,552.34	7,536,798,552.34
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	153,932,250.00	153,932,250.00
TOTAL SOURCES OF FINANCE	3,529,724,985.52	7,065,966,802.34	10,595,691,787.87

INCOME AND COSTS, OPERATIONS

	First year 1/2017-11/2017	Reference year 1/2017-11/2017	Last year 12/2050-11/2051
SALES REVENUE	0.00	0.00	22,485,918,000.00
Factory costs	0.00	0.00	2,203,741,000.00
Administrative overhead costs	0.00	0.00	34,203,000.00
OPERATING COSTS	0.00	0.00	2,237,944,000.00
Depreciation	60,300,684.58	60,300,684.58	164,069,240.00
Financial costs	0.00	0.00	0.00
TOTAL PRODUCTION COSTS	60,300,684.58	60,300,684.58	2,402,013,240.00
Marketing costs	0.00	0.00	1,304,183,000.00
COSTS OF PRODUCTS	60,300,684.58	60,300,684.58	3,706,196,240.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-60,300,684.58	-60,300,684.58	18,779,721,760.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-60,300,684.58	-60,300,684.58	18,779,721,760.00

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	18,779,721,760.00
Income (corporate) tax	0.00	0.00	5,258,322,092.80
NET PROFIT	-60,300,684.58	-60,300,684.58	13,521,399,667.20

RATIOS

Net Present Value of Total Capital Invested	at 15.00%	2,966,392,160.17
Internal rate of return on investment (IRR)	26.60%	
Modified IRR on investment	26.60%	
Net Present Value of Total Equity Capital Invested	at 15.00%	3,463,349,954.60
Internal rate of return on equity (IRRE)	37.80%	
Modified IRRE on equity	37.80%	
Net present values discounted to	1/2007	

VALUE-ADDED CRITERIA

South African Rand

	Present value	Grand total	Starting balance	1/2007 -11/2007	12/2007 -11/2008	12/2008 -11/2009
Value of output (incl. tax)	17,512,786,049.44	446,857,050,076.41	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	17,512,786,049.44	446,857,050,076.41	0.00	0.00	0.00	0.00
Investment	3,604,657,460.40	36,503,694,201.70	0.00	6,979,000.00	13,123,000.00	9,650,000.00
NET DOMESTIC VALUE-ADDED	13,908,128,589.05	410,353,355,874.71	0.00	-6,979,000.00	-13,123,000.00	-9,650,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	13,908,128,589.05	410,353,355,874.71	0.00	-6,979,000.00	-13,123,000.00	-9,650,000.00
Distribution of value-added (%)						
Wages to value-added	1.38	1.04	0.00	0.00	0.00	0.00
Dividends, interest to value-added	9.91	2.67	0.00	0.00	0.00	0.00
Government to value-added	26.11	22.76	0.00	0.00	0.00	0.00
Others to value-added	62.61	73.52	0.00	100.00	100.00	100.00
Absolute efficiency test						
PV (NNVA) to PV (wages)	72.57					
Relative efficiency test						
PV (NNVA) to PV (investment)	3.86					
PV (NNVA) to PV (foreign exchange)	0.00					
PV (NNVA) to PV (skilled labour)	72.57					
PV (NNVA) to PV (labour)	72.57					

VALUE-ADDED CRITERIA

South African Rand

	12/2009 -11/2010	12/2010 -11/2011	12/2011 -11/2012	12/2012 -11/2013	12/2013 -11/2014	12/2014 -11/2015
Value of output (incl. tax)	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	0.00	0.00	0.00	0.00	0.00	0.00
Investment	48,500,000.00	72,525,000.00	22,551,000.00	25,771,000.00	146,668,000.00	310,288,000.00
NET DOMESTIC VALUE-ADDED	-48,500,000.00	-72,525,000.00	-22,551,000.00	-25,771,000.00	-146,668,000.00	-310,288,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	-48,500,000.00	-72,525,000.00	-22,551,000.00	-25,771,000.00	-146,668,000.00	-310,288,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Government to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Others to value-added	100.00	100.00	100.00	100.00	100.00	100.00
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA						
South African Rand						
	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	12/2018 -11/2019	12/2019 -11/2020	12/2020 -11/2021
Value of output (incl. tax)	0.00	0.00	500,219,000.00	2,108,324,000.00	3,332,311,000.00	5,852,093,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	0.00	0.00	500,219,000.00	2,108,324,000.00	3,332,311,000.00	5,852,093,000.00
Investment	1,149,473,000.00	1,631,593,000.00	2,197,012,833.33	2,104,455,733.33	2,190,348,500.00	1,069,933,308.33
NET DOMESTIC VALUE-ADDED	-1,149,473,000.00	-1,631,593,000.00	-1,696,793,833.33	3,868,266.67	1,141,962,500.00	4,782,159,691.67
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	-1,149,473,000.00	-1,631,593,000.00	-1,696,793,833.33	3,868,266.67	1,141,962,500.00	4,782,159,691.67
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	-0.36	662.20	3.53	1.48
Dividends, interest to value-added	-6.56	-16.72	-29.89	17,899.69	59.62	13.70
Government to value-added	0.00	0.00	-5.90	7,371.14	48.38	23.82
Others to value-added	106.56	116.72	136.14	-25,833.04	-11.54	61.00
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA						
South African Rand						
	12/2021 -11/2022	12/2022 -11/2023	12/2023 -11/2024	12/2024 -11/2025	12/2025 -11/2026	12/2026 -11/2027
Value of output (incl. tax)	6,144,697,650.00	6,451,932,533.00	6,774,529,159.00	7,113,255,617.00	7,468,918,398.00	7,842,364,318.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	6,144,697,650.00	6,451,932,533.00	6,774,529,159.00	7,113,255,617.00	7,468,918,398.00	7,842,364,318.00
Investment	92,154,233.18	124,287,113.88	157,895,705.42	193,047,022.54	229,811,879.95	268,264,346.66
NET DOMESTIC VALUE-ADDED	6,052,543,416.82	6,327,645,419.12	6,616,633,453.58	6,920,208,594.46	7,239,106,518.05	7,574,099,971.34
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	6,052,543,416.82	6,327,645,419.12	6,616,633,453.58	6,920,208,594.46	7,239,106,518.05	7,574,099,971.34
Distribution of value-added (%)						
Wages to value-added	1.21	1.21	1.20	1.19	1.19	1.18
Dividends, interest to value-added	10.40	9.55	8.74	7.99	7.29	6.63
Government to value-added	20.01	20.39	20.76	21.10	21.43	21.74
Others to value-added	68.38	68.85	69.30	69.71	70.10	70.46
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

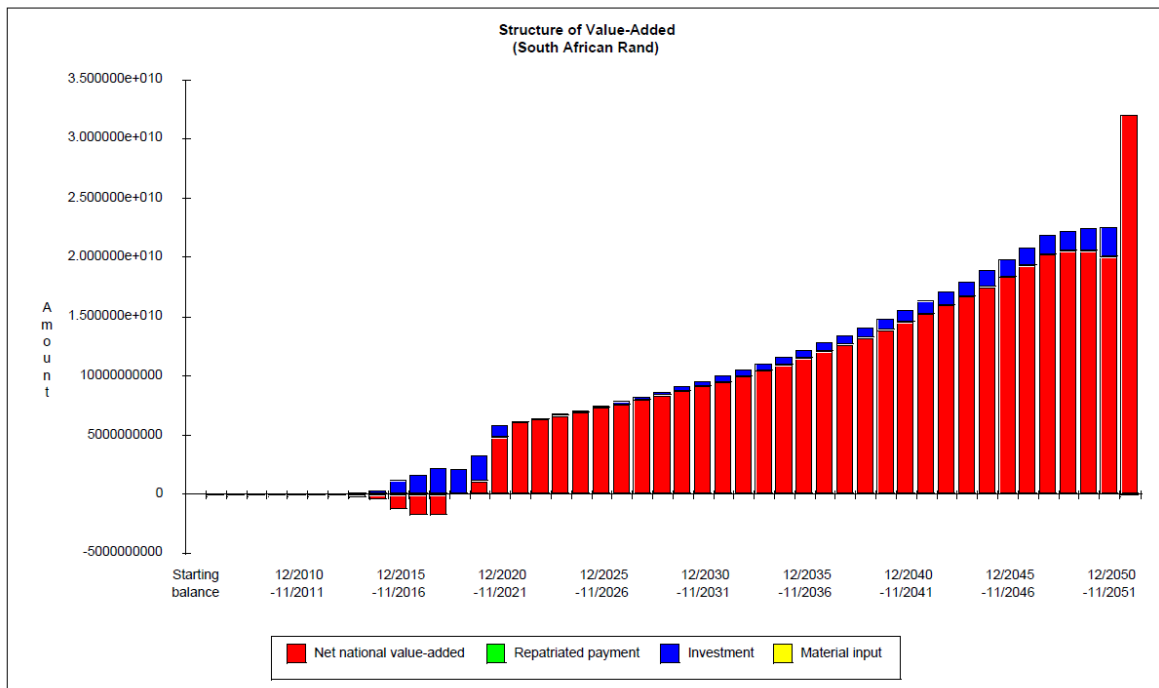
VALUE-ADDED CRITERIA						
South African Rand						
	12/2027 -11/2028	12/2028 -11/2029	12/2029 -11/2030	12/2030 -11/2031	12/2031 -11/2032	12/2032 -11/2033
Value of output (incl. tax)	8,234,482,534.00	8,646,206,660.00	9,078,516,993.00	9,532,442,843.00	10,009,064,985.00	10,509,518,234.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	8,234,482,534.00	8,646,206,660.00	9,078,516,993.00	9,532,442,843.00	10,009,064,985.00	10,509,518,234.00
Investment	308,481,887.48	353,834,395.03	394,704,475.25	440,726,669.49	488,861,464.79	539,205,836.49
NET DOMESTIC VALUE-ADDED	7,926,000,646.52	8,292,372,264.97	8,683,812,517.75	9,091,716,173.51	9,520,203,520.21	9,970,312,397.51
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	7,926,000,646.52	8,292,372,264.97	8,683,812,517.75	9,091,716,173.51	9,520,203,520.21	9,970,312,397.51
Distribution of value-added (%)						
Wages to value-added	1.17	1.17	1.16	1.15	1.14	1.13
Dividends, interest to value-added	6.01	5.44	4.90	4.39	3.93	3.49
Government to value-added	22.03	22.18	22.43	22.68	22.91	23.12
Others to value-added	70.79	71.22	71.51	71.78	72.02	72.25
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA							
South African Rand							
	12/2033 -11/2034	12/2034 -11/2035	12/2035 -11/2036	12/2036 -11/2037	12/2037 -11/2038	12/2038 -11/2039	
Value of output (incl. tax)	11,034,994,146.00	11,586,743,853.00	12,166,081,046.00	12,774,385,098.00	13,413,104,353.00	14,083,759,570.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	
GROSS DOMESTIC VALUE-ADDED	11,034,994,146.00	11,586,743,853.00	12,166,081,046.00	12,774,385,098.00	13,413,104,353.00	14,083,759,570.00	
Investment	591,861,212.03	646,933,686.92	704,534,213.18	764,778,848.95	827,788,969.03	893,691,529.31	
NET DOMESTIC VALUE-ADDED	10,443,132,933.97	10,939,810,166.08	11,461,546,832.82	12,009,606,249.05	12,585,315,383.97	13,190,068,040.69	
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	
NET NATIONAL VALUE-ADDED	10,443,132,933.97	10,939,810,166.08	11,461,546,832.82	12,009,606,249.05	12,585,315,383.97	13,190,068,040.69	
Distribution of value-added (%)							
Wages to value-added	1.13	1.12	1.11	1.10	1.09	1.08	
Dividends, interest to value-added	3.09	2.72	2.37	2.05	1.75	1.48	
Government to value-added	23.33	23.52	23.70	23.87	24.03	24.18	
Others to value-added	72.45	72.64	72.82	72.98	73.12	73.26	
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							

VALUE-ADDED CRITERIA							
South African Rand							
	12/2039 -11/2040	12/2040 -11/2041	12/2041 -11/2042	12/2042 -11/2043	12/2043 -11/2044	12/2044 -11/2045	
Value of output (incl. tax)	14,787,947,549.00	15,527,344,926.00	16,303,712,173.00	17,118,897,781.00	17,974,842,670.00	18,873,584,804.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	
GROSS DOMESTIC VALUE-ADDED	14,787,947,549.00	15,527,344,926.00	16,303,712,173.00	17,118,897,781.00	17,974,842,670.00	18,873,584,804.00	
Investment	962,619,303.11	1,031,167,387.03	1,106,320,541.12	1,184,921,137.98	1,267,142,005.50	1,353,121,034.74	
NET DOMESTIC VALUE-ADDED	13,825,328,245.89	14,496,177,538.97	15,197,391,631.88	15,933,976,643.02	16,707,700,664.50	17,520,463,769.26	
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	
NET NATIONAL VALUE-ADDED	13,825,328,245.89	14,496,177,538.97	15,197,391,631.88	15,933,976,643.02	16,707,700,664.50	17,520,463,769.26	
Distribution of value-added (%)							
Wages to value-added	1.08	1.07	1.06	1.05	1.04	1.03	
Dividends, interest to value-added	1.23	0.99	0.78	0.58	0.40	0.24	
Government to value-added	24.32	24.53	24.73	24.92	25.11	25.28	
Others to value-added	73.38	73.41	73.43	73.44	73.45	73.45	
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							

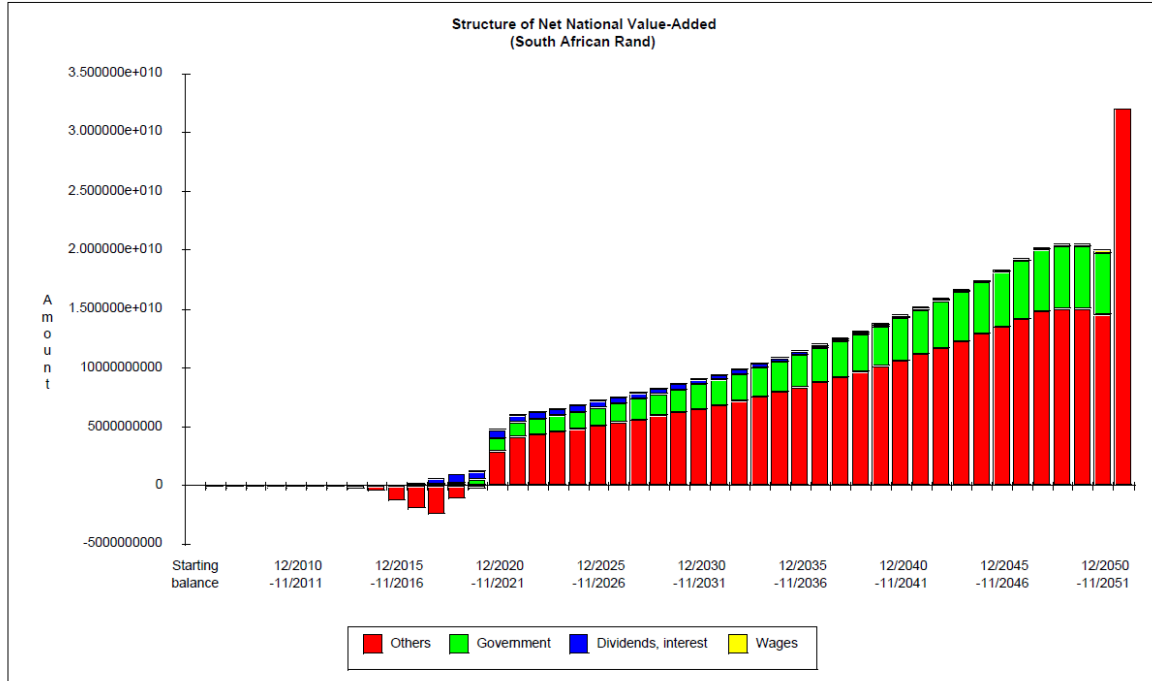
VALUE-ADDED CRITERIA							
South African Rand							
	12/2045 -11/2046	12/2046 -11/2047	12/2047 -11/2048	12/2048 -11/2049	12/2049 -11/2050	12/2050 -11/2051	
Value of output (incl. tax)	19,817,264,044.00	20,808,127,246.00	21,848,533,609.00	22,285,504,281.00	22,396,931,802.00	22,485,918,000.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	
GROSS DOMESTIC VALUE-ADDED	19,817,264,044.00	20,808,127,246.00	21,848,533,609.00	22,285,504,281.00	22,396,931,802.00	22,485,918,000.00	
Investment	1,443,044,296.22	1,537,092,763.03	1,635,455,728.74	1,738,331,144.13	1,845,926,072.93	1,965,065,589.26	
NET DOMESTIC VALUE-ADDED	18,374,219,747.78	19,271,034,482.97	20,213,077,880.26	20,547,173,136.87	20,551,005,729.07	20,520,852,410.74	
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	
NET NATIONAL VALUE-ADDED	18,374,219,747.78	19,271,034,482.97	20,213,077,880.26	20,547,173,136.87	20,551,005,729.07	20,520,852,410.74	
Distribution of value-added (%)							
Wages to value-added	1.02	1.02	1.01	1.03	1.07	1.22	
Dividends, interest to value-added	0.09	0.00	0.00	0.00	0.00	0.00	
Government to value-added	25.45	25.59	25.71	25.75	25.75	26.27	
Others to value-added	73.44	73.39	73.29	73.22	73.18	72.51	
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							

VALUE-ADDED CRITERIA	
South African Rand	
	Scrap 12/2051-11/2052
Value of output (incl. tax)	31,970,496,201.41
Material input	0.00
GROSS DOMESTIC VALUE-ADDED	31,970,496,201.41
Investment	-93,247,666.67
NET DOMESTIC VALUE-ADDED	32,063,743,868.07
Repatriated payment	0.00
NET NATIONAL VALUE-ADDED	32,063,743,868.07
Distribution of value-added (%)	
Wages to value-added	0.00
Dividends, interest to value-added	0.00
Government to value-added	0.00
Others to value-added	100.00
Absolute efficiency test	
PV (NNVA) to PV (wages)	
Relative efficiency test	
PV (NNVA) to PV (investment)	
PV (NNVA) to PV (foreign exchange)	
PV (NNVA) to PV (skilled labour)	
PV (NNVA) to PV (labour)	



	Net national value-added	Repatriated payment	Investment	Material input
Starting balance	0.00	0.00	0.00	0.00
1/2007-11/2007	-6,979,000.00	0.00	6,979,000.00	0.00
12/2007-11/2008	-13,123,000.00	0.00	13,123,000.00	0.00
12/2008-11/2009	-9,650,000.00	0.00	9,650,000.00	0.00
12/2009-11/2010	-48,500,000.00	0.00	48,500,000.00	0.00
12/2010-11/2011	-72,525,000.00	0.00	72,525,000.00	0.00
12/2011-11/2012	-22,551,000.00	0.00	22,551,000.00	0.00
12/2012-11/2013	-25,771,000.00	0.00	25,771,000.00	0.00
12/2013-11/2014	-146,668,000.00	0.00	146,668,000.00	0.00
12/2014-11/2015	-310,288,000.00	0.00	310,288,000.00	0.00
12/2015-11/2016	-1,149,473,000.00	0.00	1,149,473,000.00	0.00
12/2016-11/2017	-1,631,593,000.00	0.00	1,631,593,000.00	0.00
12/2017-11/2018	-1,696,793,833.33	0.00	2,197,012,833.33	0.00
12/2018-11/2019	3,868,266.67	0.00	2,104,455,733.33	0.00
12/2019-11/2020	1,141,962,500.00	0.00	2,190,348,500.00	0.00
12/2020-11/2021	4,782,159,691.67	0.00	1,069,933,308.33	0.00
12/2021-11/2022	6,052,543,416.82	0.00	92,154,233.18	0.00
12/2022-11/2023	6,327,645,419.12	0.00	124,287,113.88	0.00
12/2023-11/2024	6,616,633,453.58	0.00	157,895,705.42	0.00
12/2024-11/2025	6,920,208,594.46	0.00	193,047,022.54	0.00
12/2025-11/2026	7,239,106,518.05	0.00	229,811,879.95	0.00
12/2026-11/2027	7,574,099,971.34	0.00	268,264,346.66	0.00
12/2027-11/2028	7,926,000,646.52	0.00	308,481,887.48	0.00
12/2028-11/2029	8,292,372,264.97	0.00	353,834,395.03	0.00
12/2029-11/2030	8,683,812,517.75	0.00	394,704,475.25	0.00
12/2030-11/2031	9,091,716,173.51	0.00	440,726,669.49	0.00
12/2031-11/2032	9,520,203,520.21	0.00	488,861,464.79	0.00
12/2032-11/2033	9,970,312,397.51	0.00	539,205,836.49	0.00
12/2033-11/2034	10,443,132,933.97	0.00	591,861,212.03	0.00
12/2034-11/2035	10,939,810,166.08	0.00	646,933,686.92	0.00
12/2035-11/2036	11,461,546,832.82	0.00	704,534,213.18	0.00
12/2036-11/2037	12,009,606,249.05	0.00	764,778,848.95	0.00
12/2037-11/2038	12,585,315,383.97	0.00	827,788,969.03	0.00
12/2038-11/2039	13,190,068,040.69	0.00	893,691,529.31	0.00
12/2039-11/2040	13,825,328,245.89	0.00	962,619,303.11	0.00

12/2040-11/2041	14,496,177,538.97	0.00	1,031,167,387.03	0.00
12/2041-11/2042	15,197,391,631.88	0.00	1,106,320,541.12	0.00
12/2042-11/2043	15,933,976,643.02	0.00	1,184,921,137.98	0.00
12/2043-11/2044	16,707,700,664.50	0.00	1,267,142,005.50	0.00
12/2044-11/2045	17,520,463,769.26	0.00	1,353,121,034.74	0.00
12/2045-11/2046	18,374,219,747.78	0.00	1,443,044,296.22	0.00
12/2046-11/2047	19,271,034,482.97	0.00	1,537,092,763.03	0.00
12/2047-11/2048	20,213,077,880.26	0.00	1,635,455,728.74	0.00
12/2048-11/2049	20,547,173,136.87	0.00	1,738,331,144.13	0.00
12/2049-11/2050	20,551,005,729.07	0.00	1,845,926,072.93	0.00
12/2050-11/2051	20,013,852,410.74	0.00	2,472,065,589.26	0.00
Scrap	32,063,743,868.07	0.00	-93,247,666.67	0.00



	Others	Government	Dividends, interest	Wages
Starting balance	0.00	0.00	0.00	0.00
1/2007-11/2007	-6,979,000.00	0.00	0.00	0.00
12/2007-11/2008	-13,123,000.00	0.00	0.00	0.00
12/2008-11/2009	-9,650,000.00	0.00	0.00	0.00
12/2009-11/2010	-48,500,000.00	0.00	0.00	0.00
12/2010-11/2011	-72,525,000.00	0.00	0.00	0.00
12/2011-11/2012	-22,551,000.00	0.00	0.00	0.00
12/2012-11/2013	-25,771,000.00	0.00	0.00	0.00
12/2013-11/2014	-146,668,000.00	0.00	0.00	0.00
12/2014-11/2015	-310,288,000.00	0.00	0.00	0.00
12/2015-11/2016	-1,224,840,985.52	0.00	75,367,985.52	0.00
12/2016-11/2017	-1,904,428,617.08	0.00	272,835,617.08	0.00
12/2017-11/2018	-2,310,099,481.82	100,068,761.80	507,137,886.69	6,099,000.00
12/2018-11/2019	-999,290,734.52	285,135,420.65	692,407,780.53	25,615,800.00
12/2019-11/2020	-131,740,191.19	552,521,539.82	680,835,351.37	40,345,800.00
12/2020-11/2021	2,917,230,003.86	1,139,061,617.24	655,264,070.57	70,604,000.00
12/2021-11/2022	4,138,524,376.09	1,210,898,090.96	629,692,789.76	73,428,160.00
12/2022-11/2023	4,356,793,658.76	1,290,364,971.41	604,121,508.96	76,365,280.00
12/2023-11/2024	4,585,187,558.59	1,373,475,786.83	578,550,228.16	79,419,880.00
12/2024-11/2025	4,824,218,975.59	1,460,413,991.51	552,978,947.36	82,596,680.00
12/2025-11/2026	5,074,426,014.57	1,551,372,276.93	527,407,666.55	85,900,560.00
12/2026-11/2027	5,336,373,959.82	1,646,553,026.76	501,836,385.75	89,336,600.00
12/2027-11/2028	5,610,656,688.21	1,746,168,813.36	476,265,104.95	92,910,040.00
12/2028-11/2029	5,905,659,689.70	1,839,392,311.13	450,693,824.15	96,626,440.00
12/2029-11/2030	6,210,191,849.26	1,948,006,605.14	425,122,543.34	100,491,520.00
12/2030-11/2031	6,525,921,422.59	2,061,732,328.39	399,551,262.54	104,511,160.00
12/2031-11/2032	6,856,705,191.21	2,180,826,747.25	373,979,981.74	108,691,600.00
12/2032-11/2033	7,203,304,332.84	2,305,560,083.73	348,408,700.94	113,039,280.00
12/2033-11/2034	7,566,518,509.52	2,436,216,164.31	322,837,420.13	117,560,840.00
12/2034-11/2035	7,947,187,682.30	2,573,093,064.45	297,266,139.33	122,263,280.00
12/2035-11/2036	8,346,194,301.75	2,716,503,872.54	271,694,858.53	127,153,800.00
12/2036-11/2037	8,764,465,310.47	2,866,777,400.86	246,123,577.72	132,239,960.00
12/2037-11/2038	9,202,974,512.00	3,024,259,015.05	220,552,296.92	137,529,560.00
12/2038-11/2039	9,662,744,830.33	3,189,311,434.24	194,981,016.12	143,030,760.00
12/2039-11/2040	10,144,850,909.68	3,362,315,640.89	169,409,735.32	148,751,960.00

12/2040-11/2041	10,642,058,173.66	3,555,578,870.79	143,838,454.51	154,702,040.00
12/2041-11/2042	11,159,786,587.53	3,758,447,729.91	118,267,173.71	160,890,140.73
12/2042-11/2043	11,702,544,959.97	3,971,410,030.14	92,695,892.91	167,325,760.00
12/2043-11/2044	12,271,677,575.63	4,194,879,716.77	67,124,612.11	174,018,760.00
12/2044-11/2045	12,868,449,226.10	4,429,481,691.86	41,563,331.30	180,979,520.00
12/2045-11/2046	13,494,238,680.65	4,675,780,296.64	15,982,050.50	188,218,720.00
12/2046-11/2047	14,143,475,865.44	4,931,633,599.20	177,578.34	195,747,440.00
12/2047-11/2048	14,813,477,162.87	5,196,023,357.39	0.00	203,577,360.00
12/2048-11/2049	15,045,051,016.83	5,290,401,680.04	0.00	211,720,440.00
12/2049-11/2050	15,038,229,671.13	5,292,586,777.94	0.00	220,189,280.00
12/2050-11/2051	14,511,406,317.94	5,258,322,092.80	0.00	244,124,000.00
Scrap	32,063,743,868.07	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS

South African Rand

	Present value	Grand total	Starting balance	1/2007 -11/2007	12/2007 -11/2008	12/2008 -11/2009
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	1,247,908,554.97	17,007,446,000.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	191,712,166.30	453,456,000.00	0.00	25,192,000.00	25,192,000.00	25,192,000.00
NET FOREIGN INDIRECT EFFECTS	1,056,196,388.68	16,553,990,000.00	0.00	-25,192,000.00	-25,192,000.00	-25,192,000.00
NET FOREIGN EXCHANGE EFFECTS	1,056,196,388.68	16,553,990,000.00	0.00	-25,192,000.00	-25,192,000.00	-25,192,000.00

NET FOREIGN EXCHANGE EFFECTS

South African Rand

	12/2009 -11/2010	12/2010 -11/2011	12/2011 -11/2012	12/2012 -11/2013	12/2013 -11/2014	12/2014 -11/2015
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange outflows	25,192,000.00	25,192,000.00	25,192,000.00	25,192,000.00	25,192,000.00	25,192,000.00
NET FOREIGN INDIRECT EFFECTS	-25,192,000.00	-25,192,000.00	-25,192,000.00	-25,192,000.00	-25,192,000.00	-25,192,000.00
NET FOREIGN EXCHANGE EFFECTS	-25,192,000.00	-25,192,000.00	-25,192,000.00	-25,192,000.00	-25,192,000.00	-25,192,000.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	12/2018 -11/2019	12/2019 -11/2020	12/2020 -11/2021	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	0.00	0.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
Indirect foreign exchange outflows	25,192,000.00	50,384,000.00	25,192,000.00	25,192,000.00	25,192,000.00	25,192,000.00	25,192,000.00
NET FOREIGN INDIRECT EFFECTS	-25,192,000.00	-50,384,000.00	475,027,000.00	475,027,000.00	475,027,000.00	475,027,000.00	475,027,000.00
NET FOREIGN EXCHANGE EFFECTS	-25,192,000.00	-50,384,000.00	475,027,000.00	475,027,000.00	475,027,000.00	475,027,000.00	475,027,000.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	12/2021 -11/2022	12/2022 -11/2023	12/2023 -11/2024	12/2024 -11/2025	12/2025 -11/2026	12/2026 -11/2027	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
Indirect foreign exchange outflows	25,192,000.00	25,192,000.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	475,027,000.00	475,027,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
NET FOREIGN EXCHANGE EFFECTS	475,027,000.00	475,027,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	12/2027 -11/2028	12/2028 -11/2029	12/2029 -11/2030	12/2030 -11/2031	12/2031 -11/2032	12/2032 -11/2033	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
NET FOREIGN EXCHANGE EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	12/2033 -11/2034	12/2034 -11/2035	12/2035 -11/2036	12/2036 -11/2037	12/2037 -11/2038	12/2038 -11/2039
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
NET FOREIGN EXCHANGE EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	12/2039 -11/2040	12/2040 -11/2041	12/2041 -11/2042	12/2042 -11/2043	12/2043 -11/2044	12/2044 -11/2045
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
NET FOREIGN EXCHANGE EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	12/2045 -11/2046	12/2046 -11/2047	12/2047 -11/2048	12/2048 -11/2049	12/2049 -11/2050	12/2050 -11/2051
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00
NET FOREIGN EXCHANGE EFFECTS	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00	500,219,000.00

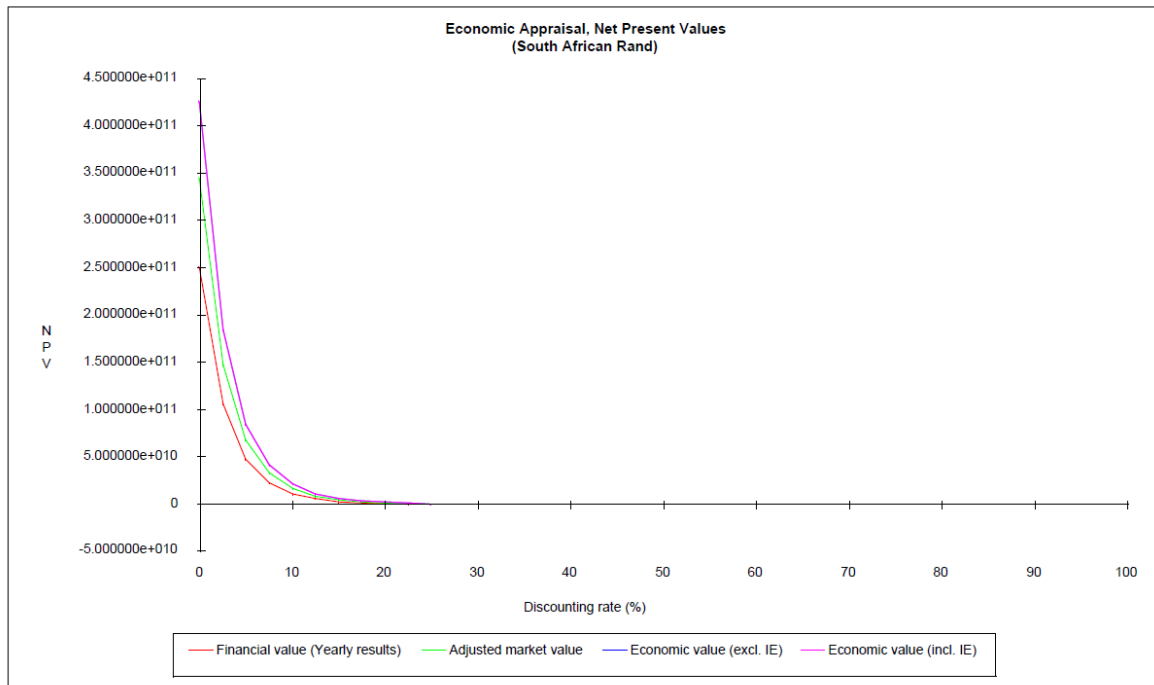
NET FOREIGN EXCHANGE EFFECTS	
South African Rand	
	Scrap 12/2051-11/2052
TOTAL FOREIGN EXCHANGE INFLOW	0.00
Equity share	0.00
Loans	0.00
Subsidies, grants	0.00
Export of products	0.00
Other income	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00
Fixed investments	0.00
Material input	0.00
Debt service	0.00
Wages	0.00
Equity capital refund	0.00
Dividends transfer	0.00
Others	0.00
NET FOREIGN EXCHANGE FLOW	0.00
Indirect foreign exchange inflows	0.00
Indirect foreign exchange outflows	0.00
NET FOREIGN INDIRECT EFFECTS	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00

EMPLOYMENT EFFECT						
South African Rand						
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I
Direct employment within project	0.00	0.00	0.00	38,229,727,906.23	0.00	0.00
Indirect employment	1,600.00	2,400.00	4,000.00	0.00	0.00	0.00
Total employment	1,600.00	2,400.00	4,000.00	38,229,727,906.23	0.00	0.00

EMPLOYMENT EFFECT				
South African Rand				
	TL/I	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00	0.00
Total employment	0.00	391.50	261.00	261.00

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	17,518,513,813.61	1.00	17,518,513,813.61	98.70	3,458,986,378.31	20,977,500,191.92	0.00
Inflow operation	17,290,781,937.89	1.00	17,290,781,937.89	100.00	3,458,986,378.31	20,749,768,316.20	0.00
Other income	227,731,875.71	1.00	227,731,875.71	0.00	0.00	227,731,875.71	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	10,405,618,456.66	0.65	6,755,689,310.66	41.34	558,664,389.84	7,314,353,700.50	0.00
Increase in fixed assets	3,841,155,426.61	1.00	3,841,155,426.61	72.70	558,664,389.84	4,399,819,816.45	0.00
Increase in net working capital	82,842,633.02	1.00	82,842,633.02	0.00	0.00	82,842,633.02	0.00
Operating costs	1,882,106,792.01	0.99	1,862,941,598.45	0.00	0.00	1,862,941,598.45	0.00
Marketing costs	968,749,652.58	1.00	968,749,652.58	0.00	0.00	968,749,652.58	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	3,630,763,952.44	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	7,112,895,356.95	1.51	10,762,824,502.95	134.71	2,900,321,988.47	13,663,146,491.42	0.00
INTERNAL RATE OF RETURN	26.60	---	31.67	---	---	33.10	---
BENEFIT-COST RATIO	1.68	---	2.59	---	---	2.87	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	20,977,500,191.92
Inflow operation	20,749,768,316.20
Other income	227,731,875.71
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	7,314,353,700.50
Increase in fixed assets	4,399,819,816.45
Increase in net working capital	82,842,633.02
Operating costs	1,862,941,598.45
Marketing costs	968,749,652.58
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	13,663,146,491.42
INTERNAL RATE OF RETURN	33.10
BENEFIT-COST RATIO	2.87



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	250,156,536,150.85	343,998,711,500.65	424,862,417,484.40	424,862,417,484.40
10.00 %	11,273,044,805.30	16,670,671,909.07	21,062,012,974.67	21,062,012,974.67
20.00 %	740,215,207.14	1,458,620,792.42	1,930,660,187.02	1,930,660,187.02
30.00 %	-99,275,550.02	53,892,974.51	116,763,149.72	116,763,149.72
40.00 %	-132,240,022.06	-90,120,658.49	-86,402,560.15	-86,402,560.15
50.00 %	-93,804,324.53	-80,211,114.04	-84,457,966.82	-84,457,966.82
60.00 %	-62,879,747.34	-57,959,135.57	-61,900,675.10	-61,900,675.10
70.00 %	-43,292,029.24	-41,344,858.32	-44,050,493.55	-44,050,493.55
80.00 %	-31,225,525.33	-30,397,083.44	-32,129,829.06	-32,129,829.06
90.00 %	-23,627,750.35	-23,253,199.54	-24,347,748.10	-24,347,748.10
100.00 %	-18,660,377.78	-18,481,993.93	-19,177,377.64	-19,177,377.64

Project 13

SUMMARY SHEET

Project title:	Project 13 - MIB
Project description:	The establishment of a FINESMELT reduction plant in Limpopo.
Date and time:	
Project classification:	New project
Construction phase:	1/2011 - 6/2012
Length:	1 years, 6 months
Production phase:	7/2012 - 11/2018
Length:	7 years
Accounting currency:	South Africa Rand (ZAR)
Units:	Absolute
Local currency:	South Africa Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	29,216,000.00	85,613,000.00	114,829,000.00
Total pre-production expenditures	1,252,990.90	893,160.97	2,146,151.87
<i>Pre-production expenditures (net of interest)</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Interest</i>	<i>1,252,990.90</i>	<i>893,160.97</i>	<i>2,146,151.87</i>
Increase in net working capital	0.00	8,584,755.85	8,584,755.85
TOTAL INVESTMENT COSTS	30,468,990.90	95,090,916.82	125,559,907.72

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	66,291,000.00	37,310,000.00	103,601,000.00
<i>Foreign</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Local</i>	<i>66,291,000.00</i>	<i>37,310,000.00</i>	<i>103,601,000.00</i>
Total long-term loans	35,430,365.63	893,160.97	36,323,526.61
<i>Foreign</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Local</i>	<i>35,430,365.63</i>	<i>893,160.97</i>	<i>36,323,526.61</i>
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Local</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
Accounts payable	0.00	15,780,866.82	15,780,866.82
TOTAL SOURCES OF FINANCE	101,721,365.63	53,984,027.79	155,705,393.42

INCOME AND COSTS, OPERATIONS

	First year 7/2012-11/2012	Reference year 7/2012-11/2012	Last year 12/2017-11/2018
SALES REVENUE	0.00	0.00	130,759,860.00
Factory costs	0.00	0.00	53,835,980.00
Administrative overhead costs	0.00	0.00	800,000.00
OPERATING COSTS	0.00	0.00	54,635,980.00
Depreciation	1,217,333.33	1,217,333.33	11,482,900.00
Financial costs	605,392.11	605,392.11	0.00
TOTAL PRODUCTION COSTS	1,822,725.44	1,822,725.44	66,118,880.00
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	1,822,725.44	1,822,725.44	66,118,880.00
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-1,822,725.44	-1,822,725.44	64,640,980.00
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-1,822,725.44	-1,822,725.44	64,640,980.00
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	64,640,980.00

SUMMARY SHEET

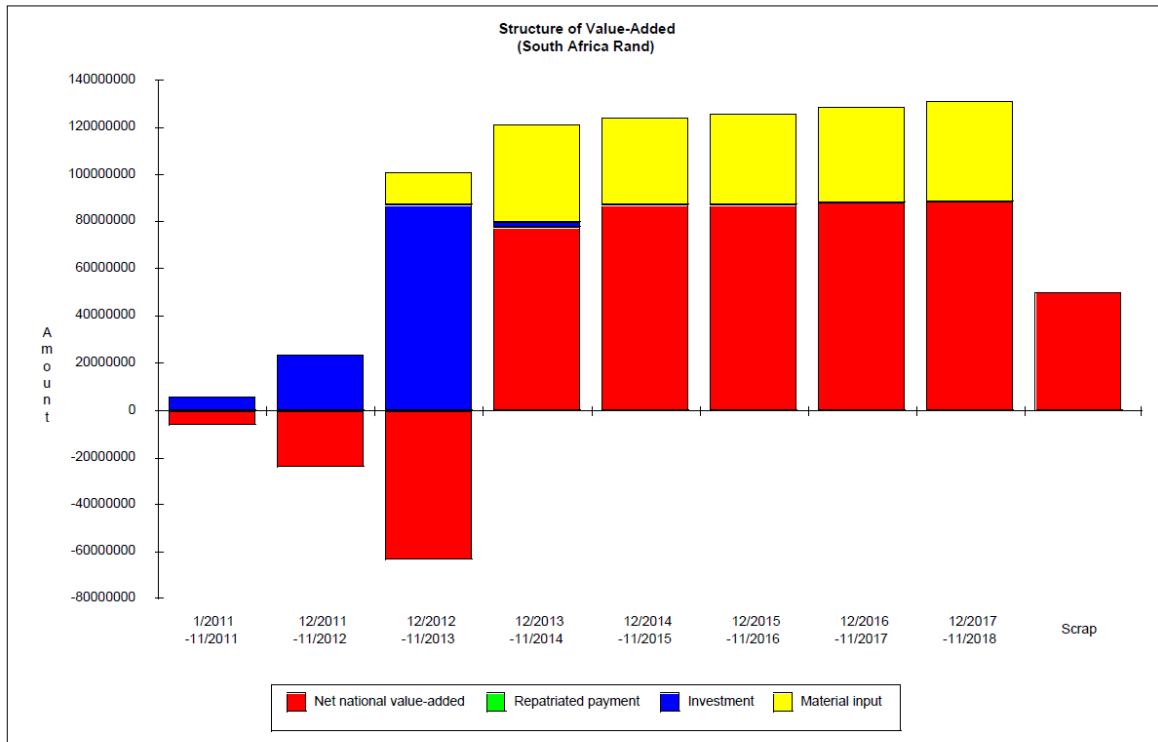
Income (corporate) tax	0.00	0.00	18,099,474.40
NET PROFIT	-1,822,725.44	-1,822,725.44	46,541,505.60

RATIOS

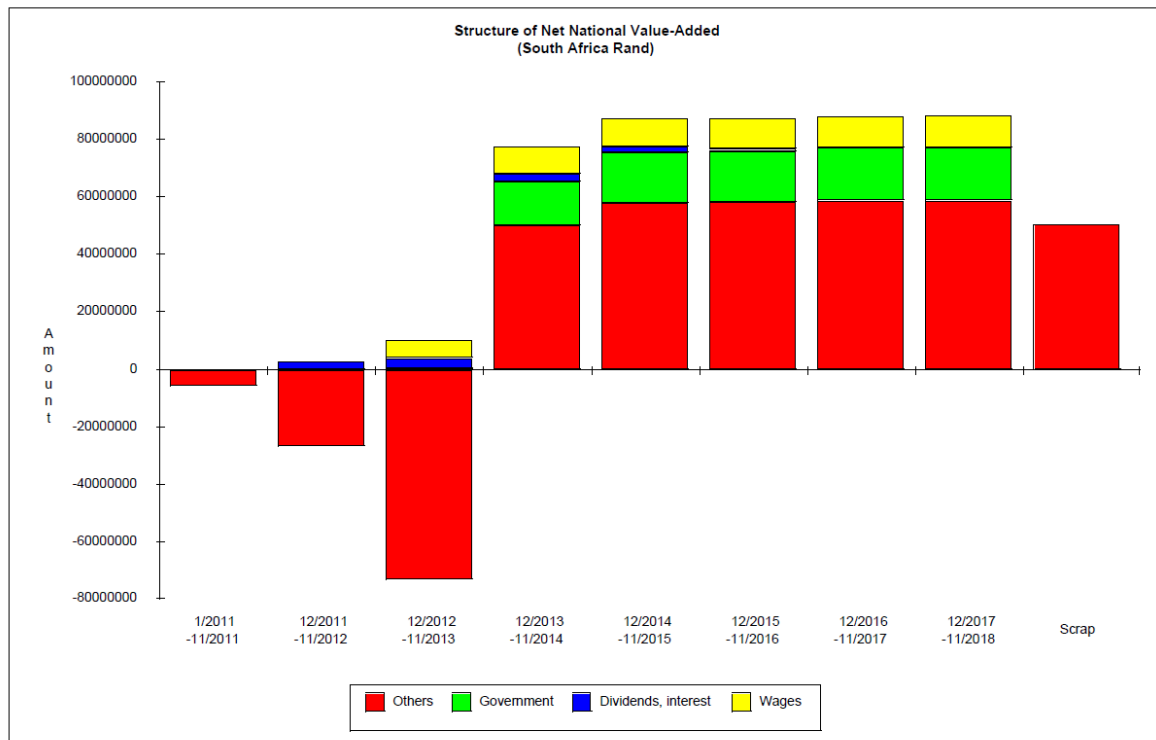
Net Present Value of Total Capital Invested	at 28.00%	24,515,945.76
Internal rate of return on investment (IRR)	40.44%	
Modified IRR on investment	40.44%	
Net Present Value of Total Equity Capital Invested	at 31.00%	26,391,394.67
Internal rate of return on equity (IRRE)	52.89%	
Modified IRRE on equity	52.89%	
Net present values discounted to	11/2011	

VALUE-ADDED CRITERIA							
South Africa Rand							
	Present value	Grand total	1/2011 -11/2011	12/2011 -11/2012	12/2012 -11/2013	12/2013 -11/2014	12/2014 -11/2015
Value of output (incl. tax)	418,597,520.58	717,814,497.23	0.00	0.00	38,123,508.00	120,917,720.00	123,721,390.83
Material input	127,003,936.74	213,416,471.00	0.00	0.00	14,012,706.00	41,377,160.00	36,656,950.00
GROSS DOMESTIC VALUE-ADDED	291,593,583.84	504,398,026.23	0.00	0.00	24,110,802.00	79,540,560.00	87,064,440.83
Investment	98,192,588.50	118,745,770.00	5,770,000.00	23,446,000.00	86,780,725.50	2,280,371.17	0.00
NET DOMESTIC VALUE-ADDED	193,400,995.34	385,652,256.23	-5,770,000.00	-23,446,000.00	-62,669,923.50	77,260,188.83	87,064,440.83
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	193,400,995.34	385,652,256.23	-5,770,000.00	-23,446,000.00	-62,669,923.50	77,260,188.83	87,064,440.83
Distribution of value-added (%)							
Wages to value-added	18.18	15.18	0.00	0.00	-10.35	12.07	11.30
Dividends, interest to value-added	4.46	2.92	0.00	-11.74	-5.43	3.38	1.96
Government to value-added	26.16	22.68	0.00	0.00	-0.35	20.14	20.25
Others to value-added	51.21	59.21	100.00	111.74	116.14	64.40	66.49
Absolute efficiency test							
PV (NNVA) to PV (wages)	5.50						
Relative efficiency test							
PV (NNVA) to PV (investment)	1.97						
PV (NNVA) to PV (foreign exchange)	0.00						
PV (NNVA) to PV (skilled labour)	5.50						
PV (NNVA) to PV (labour)	5.50						

VALUE-ADDED CRITERIA				
South Africa Rand				
	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	Scrap 12/2018-11/2019
Value of output (incl. tax)	125,788,575.00	128,299,325.00	130,759,860.00	50,204,118.40
Material input	38,665,550.00	40,423,075.00	42,281,030.00	0.00
GROSS DOMESTIC VALUE-ADDED	87,123,025.00	87,876,250.00	88,478,830.00	50,204,118.40
Investment	167,383.33	146,460.42	154,829.58	0.00
NET DOMESTIC VALUE-ADDED	86,955,641.67	87,729,789.58	88,324,000.42	50,204,118.40
Repatriated payment	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	86,955,641.67	87,729,789.58	88,324,000.42	50,204,118.40
Distribution of value-added (%)				
Wages to value-added	11.94	12.48	13.08	0.00
Dividends, interest to value-added	0.87	0.05	0.00	0.00
Government to value-added	20.54	20.63	20.49	0.00
Others to value-added	66.65	66.84	66.43	100.00
Absolute efficiency test				
PV (NNVA) to PV (wages)				
Relative efficiency test				
PV (NNVA) to PV (investment)				
PV (NNVA) to PV (foreign exchange)				
PV (NNVA) to PV (skilled labour)				
PV (NNVA) to PV (labour)				



	Net national value-added	Repatriated payment	Investment	Material input
1/2011-11/2011	-5,770,000.00	0.00	5,770,000.00	0.00
12/2011-11/2012	-23,446,000.00	0.00	23,446,000.00	0.00
12/2012-11/2013	-62,669,923.50	0.00	86,780,725.50	14,012,706.00
12/2013-11/2014	77,260,188.83	0.00	2,280,371.17	41,377,160.00
12/2014-11/2015	87,064,440.83	0.00	0.00	36,656,950.00
12/2015-11/2016	86,955,641.67	0.00	167,383.33	38,665,550.00
12/2016-11/2017	87,729,789.58	0.00	146,460.42	40,423,075.00
12/2017-11/2018	88,324,000.42	0.00	154,829.58	42,281,030.00
Scrap	50,204,118.40	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
1/2011-11/2011	-5,770,000.00	0.00	0.00	0.00
12/2011-11/2012	-26,197,543.98	0.00	2,751,543.98	0.00
12/2012-11/2013	-72,783,784.97	219,520.85	3,405,330.62	6,489,010.00
12/2013-11/2014	49,758,297.27	15,559,354.39	2,614,537.18	9,328,000.00
12/2014-11/2015	57,886,952.61	17,628,217.36	1,708,340.86	9,840,930.00
12/2015-11/2016	57,959,181.50	17,859,591.88	754,848.29	10,382,020.00
12/2016-11/2017	58,637,105.21	18,099,925.52	39,728.86	10,953,030.00
12/2017-11/2018	58,669,576.02	18,099,474.40	0.00	11,554,950.00
Scrap	50,204,118.40	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS		South Africa Rand						
	Present value	Grand total	1/2011 -11/2011	12/2011 -11/2012	12/2012 -11/2013	12/2013 -11/2014	12/2014 -11/2015	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Indirect foreign exchange inflows	379,302,655.04	637,188,458.00	0.00	0.00	38,123,508.00	119,812,990.00	119,812,990.00	
Indirect foreign exchange outflows	181,562,229.77	291,905,481.00	5,770,000.00	11,540,000.00	25,552,706.00	49,808,555.00	49,808,555.00	
NET FOREIGN INDIRECT EFFECTS	197,740,425.26	345,282,977.00	-5,770,000.00	-11,540,000.00	12,570,802.00	70,004,435.00	70,004,435.00	
NET FOREIGN EXCHANGE EFFECTS	197,740,425.26	345,282,977.00	-5,770,000.00	-11,540,000.00	12,570,802.00	70,004,435.00	70,004,435.00	

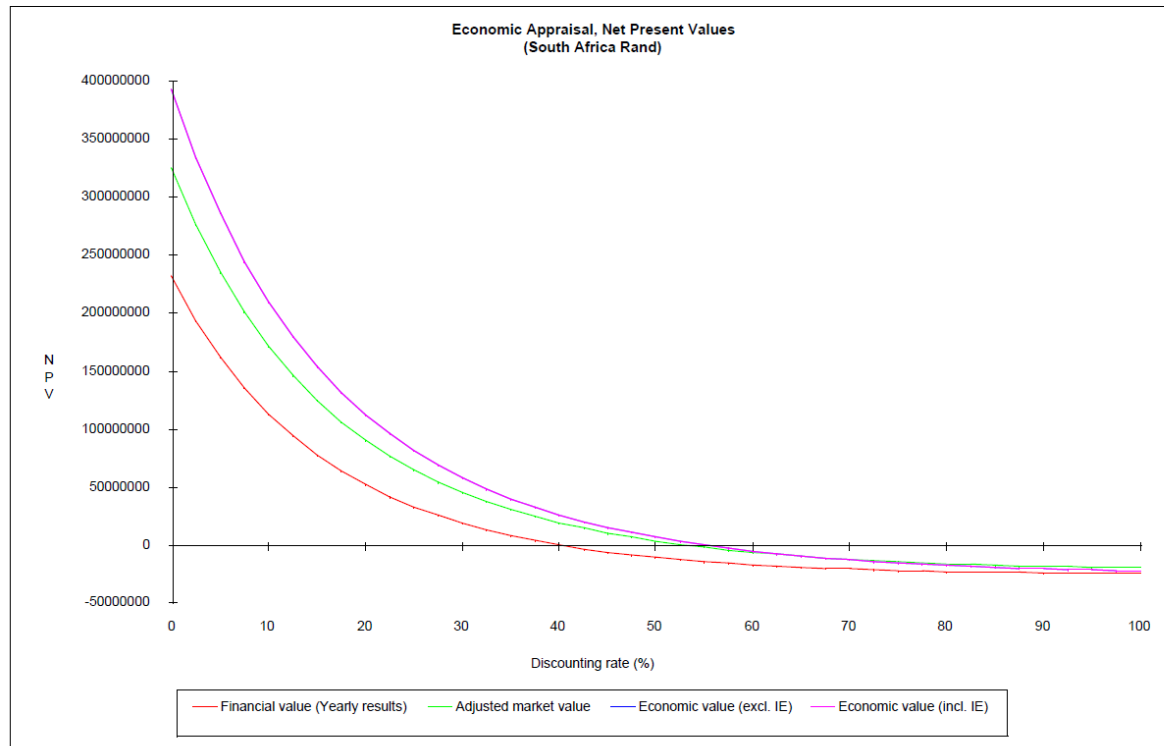
NET FOREIGN EXCHANGE EFFECTS				
South Africa Rand				
	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	Scrap 12/2018-11/2019
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	119,812,990.00	119,812,990.00	119,812,990.00	0.00
Indirect foreign exchange outflows	49,808,555.00	49,808,555.00	49,808,555.00	0.00
NET FOREIGN INDIRECT EFFECTS	70,004,435.00	70,004,435.00	70,004,435.00	0.00
NET FOREIGN EXCHANGE EFFECTS	70,004,435.00	70,004,435.00	70,004,435.00	0.00

EMPLOYMENT EFFECT							
South Africa Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	125,559,907.72	0.00	0.00	0.00
Indirect employment	44.00	66.00	110.00	0.00	0.00	0.00	0.00
Total employment	44.00	66.00	110.00	125,559,907.72	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South Africa Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	27.17	18.11	18.11

ECONOMIC APPRAISAL							
South Africa Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	420,677,725.92	1.00	420,677,725.92	93.94	79,059,898.84	499,737,624.75	0.00
Inflow operation	395,204,641.27	1.00	395,204,641.27	100.00	79,059,898.84	474,264,540.10	0.00
Other income	25,473,084.65	1.00	25,473,084.65	0.00	0.00	25,473,084.65	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	320,444,230.29	0.83	266,332,927.32	83.50	44,486,944.44	310,819,871.76	0.00
Increase in fixed assets	97,298,765.29	1.00	97,298,765.29	98.03	19,080,060.66	116,378,825.95	0.00
Increase in net working capital	6,258,110.50	1.00	6,258,110.50	0.00	0.00	6,258,110.50	0.00
Operating costs	166,291,169.13	0.98	162,776,051.52	78.02	25,406,883.78	188,182,935.30	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	50,596,185.36	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	100,233,495.63	1.54	154,344,798.60	111.97	34,572,954.40	188,917,753.00	0.00
INTERNAL RATE OF RETURN	40.44	---	53.62	---	---	55.56	---
BENEFIT-COST RATIO	1.31	---	1.58	---	---	1.61	---

ECONOMIC APPRAISAL	
South Africa Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	499,737,624.75
Inflow operation	474,264,540.10
Other income	25,473,084.65
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	310,819,871.76
Increase in fixed assets	116,378,825.95
Increase in net working capital	6,258,110.50
Operating costs	188,182,935.30
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	188,917,753.00
INTERNAL RATE OF RETURN	55.56
BENEFIT-COST RATIO	1.61



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	231,325,079.96	324,645,958.36	392,456,541.05	392,456,541.05
10.00 %	113,506,917.80	171,777,973.03	209,816,848.23	209,816,848.23
20.00 %	52,519,290.60	91,039,027.57	112,833,219.13	112,833,219.13
30.00 %	19,330,220.09	46,002,550.17	58,430,349.59	58,430,349.59
40.00 %	605,959.33	19,793,917.11	26,578,746.68	26,578,746.68
50.00 %	-10,203,085.97	4,046,673.86	7,311,267.06	7,311,267.06
60.00 %	-16,500,081.08	-5,630,773.39	-4,622,807.56	-4,622,807.56
70.00 %	-20,139,009.35	-11,657,765.52	-12,126,458.47	-12,126,458.47
80.00 %	-22,171,134.12	-15,423,238.48	-16,872,222.06	-16,872,222.06
90.00 %	-23,213,102.01	-17,753,267.62	-19,858,418.48	-19,858,418.48
100.00 %	-23,637,130.08	-19,154,324.96	-21,699,362.57	-21,699,362.57

Project 14

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 14 - RSA
 Project description: Established for the purpose of developing and implementing the first fluorescent lamp recycling plant, to be located in Gauteng.
 Date and time:
 Project classification: New project
 Construction phase: 6/2011 - 12/2012
 Length: 1 years, 7 months
 Production phase: 1/2013 - 1/2020
 Length: 8 years
 Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	0.00	12,009,000.00	12,009,000.00
Total pre-production expenditures	1,072,873.99	354,557.48	1,427,431.47
<i>Pre-production expenditures (net of interest)</i>	747,000.00	0.00	747,000.00
<i>Interest</i>	325,873.99	354,557.48	680,431.47
Increase in net working capital	0.00	890,269.41	890,269.41
TOTAL INVESTMENT COSTS	1,072,873.99	13,253,826.89	14,326,700.88

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	1,233,000.00	3,212,000.00	4,445,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	1,233,000.00	3,212,000.00	4,445,000.00
Total long-term loans	7,616,648.91	270,614.94	7,887,263.86
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	7,616,648.91	270,614.94	7,887,263.86
Total short-term loans	2,158,576.15	83,943.54	2,242,519.70
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	2,158,576.15	83,943.54	2,242,519.70
Accounts payable	0.00	390,978.07	390,978.07
TOTAL SOURCES OF FINANCE	11,008,225.07	3,957,536.55	14,965,761.62

INCOME AND COSTS, OPERATIONS

	First year 1/2013-1/2013	Reference year 1/2013-1/2013	Last year 2/2019-1/2020
SALES REVENUE	0.00	0.00	23,798,390.00
Factory costs	0.00	0.00	13,356,308.50
Administrative overhead costs	0.00	0.00	512,000.00
OPERATING COSTS	0.00	0.00	13,868,308.50
Depreciation	62,250.00	62,250.00	1,200,900.00
Financial costs	0.00	0.00	14,849.31
TOTAL PRODUCTION COSTS	62,250.00	62,250.00	15,084,057.81
Marketing costs	0.00	0.00	314,000.00
COSTS OF PRODUCTS	62,250.00	62,250.00	15,398,057.81
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-62,250.00	-62,250.00	8,400,332.19
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00

SUMMARY SHEET

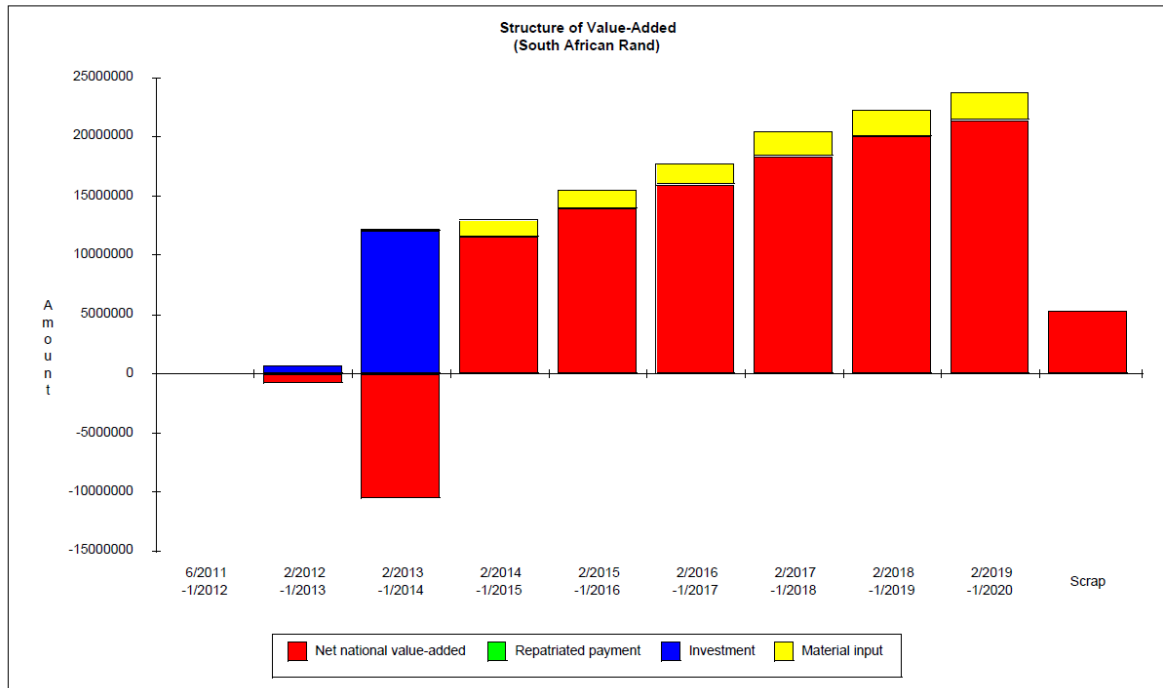
GROSS PROFIT	-62,250.00	-62,250.00	8,400,332.19
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	8,400,332.19
Income (corporate) tax	0.00	0.00	2,352,093.01
NET PROFIT	-62,250.00	-62,250.00	6,048,239.18

RATIOS

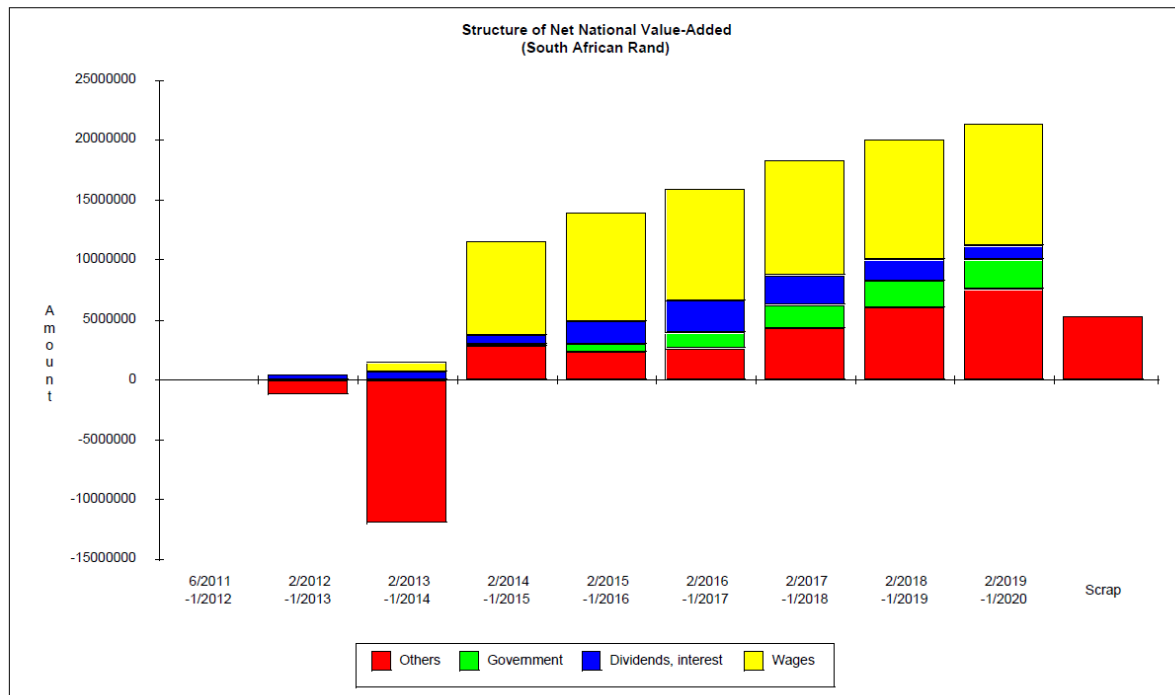
Net Present Value of Total Capital Invested	at 8.00%	10,450,959.53
Internal rate of return on investment (IRR)	26.76%	
Modified IRR on investment	26.76%	
Net Present Value of Total Equity Capital Invested	at 8.00%	11,093,382.50
Internal rate of return on equity (IRRE)	not found	
Modified IRRE on equity	not found	
Net present values discounted to	1/2012	

VALUE-ADDED CRITERIA		South African Rand							
	Present value	Grand total	6/2011 -1/2012	2/2012 -1/2013	2/2013 -1/2014	2/2014 -1/2015	2/2015 -1/2016	2/2016 -1/2017	
Value of output (incl. tax)	63,675,249.10	119,762,616.60	0.00	0.00	1,788,950.00	12,957,400.00	15,512,459.20	17,771,263.62	
Material input	6,232,201.63	11,564,855.61	0.00	0.00	210,032.40	1,367,180.80	1,549,067.26	1,779,714.41	
GROSS DOMESTIC VALUE-ADDED	57,443,047.47	108,197,760.99	0.00	0.00	1,578,917.60	11,590,219.20	13,963,391.94	15,991,549.21	
Investment	10,357,666.08	12,855,388.44	0.00	747,000.00	12,017,751.35	48,214.52	7,578.60	9,610.30	
NET DOMESTIC VALUE-ADDED	47,085,381.39	95,342,372.55	0.00	-747,000.00	-10,438,833.75	11,542,004.68	13,955,813.33	15,981,938.91	
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NET NATIONAL VALUE-ADDED	47,085,381.39	95,342,372.55	0.00	-747,000.00	-10,438,833.75	11,542,004.68	13,955,813.33	15,981,938.91	
Distribution of value-added (%)									
Wages to value-added	66.01	59.41	0.00	0.00	-6.78	67.52	64.78	58.35	
Dividends, interest to value-added	14.45	12.45	0.00	-51.49	-6.96	6.21	13.53	16.83	
Government to value-added	9.41	9.33	0.00	0.00	0.00	2.19	5.14	8.30	
Others to value-added	10.14	18.81	0.00	151.49	113.74	24.09	16.54	16.52	
Absolute efficiency test									
PV (NNVA) to PV (wages)	1.51								
Relative efficiency test									
PV (NNVA) to PV (investment)	4.55								
PV (NNVA) to PV (foreign exchange)	0.00								
PV (NNVA) to PV (skilled labour)	1.51								
PV (NNVA) to PV (labour)	1.51								

VALUE-ADDED CRITERIA		South African Rand			
	2/2017 -1/2018	2/2018 -1/2019	2/2019 -1/2020	Scrap 2/2020-1/2021	
Value of output (incl. tax)	20,405,035.14	22,241,486.61	23,798,390.00	5,287,632.03	
Material input	2,044,264.81	2,229,273.43	2,385,322.50	0.00	
GROSS DOMESTIC VALUE-ADDED	18,360,770.33	20,012,213.18	21,413,067.50	5,287,632.03	
Investment	11,022.93	7,708.69	6,502.04	0.00	
NET DOMESTIC VALUE-ADDED	18,349,747.40	20,004,504.49	21,406,565.46	5,287,632.03	
Repatriated payment	0.00	0.00	0.00	0.00	
NET NATIONAL VALUE-ADDED	18,349,747.40	20,004,504.49	21,406,565.46	5,287,632.03	
Distribution of value-added (%)					
Wages to value-added	52.43	49.60	47.81	0.00	
Dividends, interest to value-added	13.83	9.10	5.16	0.00	
Government to value-added	10.37	11.12	11.55	0.00	
Others to value-added	23.38	30.17	35.48	100.00	
Absolute efficiency test					
PV (NNVA) to PV (wages)					
Relative efficiency test					
PV (NNVA) to PV (investment)					
PV (NNVA) to PV (foreign exchange)					
PV (NNVA) to PV (skilled labour)					
PV (NNVA) to PV (labour)					



	Net national value-added	Repatriated payment	Investment	Material input
6/2011-1/2012	0.00	0.00	0.00	0.00
2/2012-1/2013	-747,000.00	0.00	747,000.00	0.00
2/2013-1/2014	-10,438,833.75	0.00	12,017,751.35	210,032.40
2/2014-1/2015	11,542,004.68	0.00	48,214.52	1,367,180.80
2/2015-1/2016	13,955,813.33	0.00	7,578.60	1,549,067.26
2/2016-1/2017	15,981,938.91	0.00	9,610.30	1,779,714.41
2/2017-1/2018	18,349,747.40	0.00	11,022.93	2,044,264.81
2/2018-1/2019	20,004,504.49	0.00	7,708.69	2,229,273.43
2/2019-1/2020	21,406,565.46	0.00	6,502.04	2,385,322.50
Scrap	5,287,632.03	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
6/2011-1/2012	0.00	0.00	0.00	0.00
2/2012-1/2013	-1,131,643.60	0.00	384,643.60	0.00
2/2013-1/2014	-11,873,607.25	0.00	726,757.50	708,016.00
2/2014-1/2015	2,780,016.64	252,517.67	716,466.37	7,793,004.00
2/2015-1/2016	2,308,035.39	717,879.52	1,888,890.42	9,041,008.00
2/2016-1/2017	2,639,959.05	1,325,929.54	2,690,054.32	9,325,996.00
2/2017-1/2018	4,289,481.09	1,903,112.54	2,537,159.77	9,619,994.00
2/2018-1/2019	6,035,571.52	2,224,686.41	1,821,278.56	9,922,968.00
2/2019-1/2020	7,594,989.30	2,473,057.80	1,103,532.36	10,234,986.00
Scrap	5,287,632.03	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS

South African Rand

	Present value	Grand total	6/2011 -1/2012	2/2012 -1/2013	2/2013 -1/2014	2/2014 -1/2015	2/2015 -1/2016
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	55,383,140.95	101,994,425.70	0.00	0.00	1,788,950.00	12,957,400.00	14,641,862.00
Indirect foreign exchange outflows	6,664,207.03	12,226,559.74	0.00	0.00	310,012.90	1,540,880.00	1,741,414.40
NET FOREIGN INDIRECT EFFECTS	48,718,933.92	89,767,865.96	0.00	0.00	1,478,937.10	11,416,520.00	12,900,447.60
NET FOREIGN EXCHANGE EFFECTS	48,718,933.92	89,767,865.96	0.00	0.00	1,478,937.10	11,416,520.00	12,900,447.60

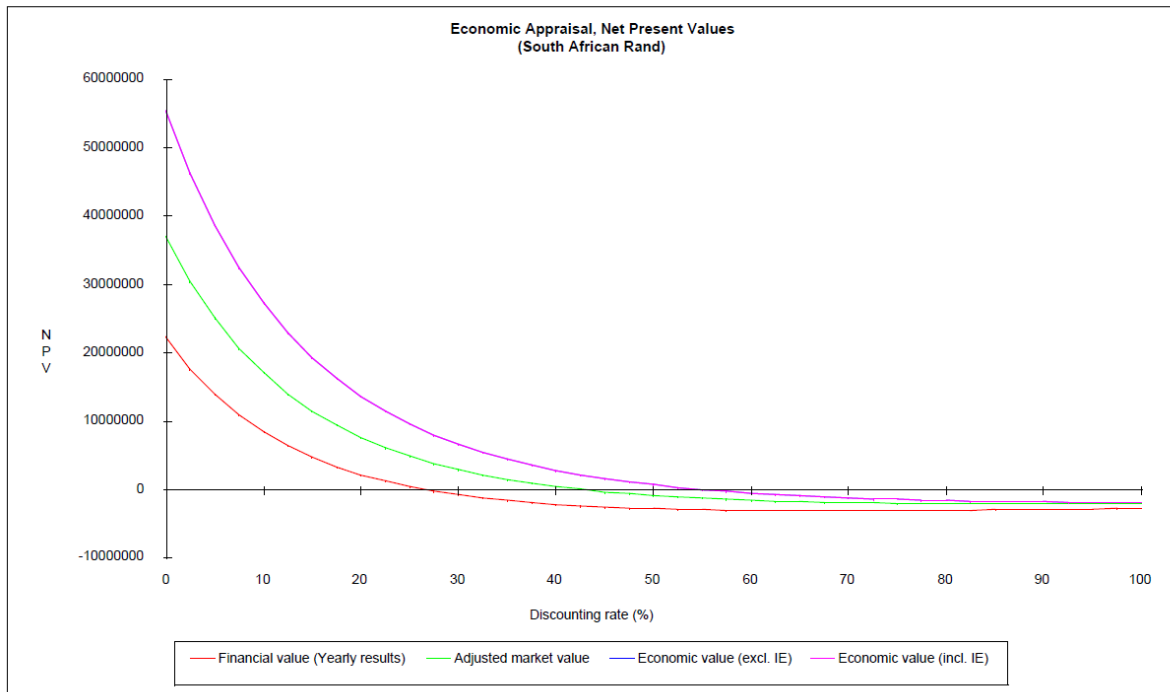
NET FOREIGN EXCHANGE EFFECTS					
South African Rand					
	2/2016 -1/2017	2/2017 -1/2018	2/2018 -1/2019	2/2019 -1/2020	Scrap 2/2020-1/2021
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	15,959,629.95	17,395,997.70	18,961,636.05	20,288,950.00	0.00
Indirect foreign exchange outflows	1,897,901.94	2,068,713.24	2,254,897.26	2,412,740.00	0.00
NET FOREIGN INDIRECT EFFECTS	14,061,728.01	15,327,284.46	16,706,738.79	17,876,210.00	0.00
NET FOREIGN EXCHANGE EFFECTS	14,061,728.01	15,327,284.46	16,706,738.79	17,876,210.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	14,326,700.88	0.00	0.00	0.00
Indirect employment	13.00	21.00	34.00	0.00	0.00	0.00	0.00
Total employment	13.00	21.00	34.00	14,326,700.88	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	3.66	2.27	2.27

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	64,001,600.70	1.00	64,001,600.70	96.08	12,301,620.62	76,303,221.31	0.00
Inflow operation	61,493,344.09	1.00	61,493,344.09	100.00	12,301,620.62	73,794,964.70	0.00
Other income	2,508,256.61	1.00	2,508,256.61	0.00	0.00	2,508,256.61	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	56,934,875.94	0.86	49,014,046.51	30.55	2,995,726.49	52,009,773.00	0.00
Increase in fixed assets	10,875,173.04	0.91	9,912,673.57	87.39	1,732,914.86	11,645,588.43	0.00
Increase in net working capital	609,324.98	1.00	609,324.98	0.00	0.00	609,324.98	0.00
Operating costs	40,672,703.97	0.93	37,645,033.54	16.77	1,262,811.63	38,907,845.17	0.00
Marketing costs	847,014.42	1.00	847,014.42	0.00	0.00	847,014.42	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	3,930,659.54	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	7,066,724.76	2.12	14,987,554.19	310.38	9,305,894.12	24,293,448.31	0.00
INTERNAL RATE OF RETURN	26.76	---	43.14	---	---	55.61	---
BENEFIT-COST RATIO	1.12	---	1.31	---	---	1.47	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	76,303,221.31
Inflow operation	73,794,964.70
Other income	2,508,256.61
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	52,009,773.00
Increase in fixed assets	11,645,588.43
Increase in net working capital	609,324.98
Operating costs	38,907,845.17
Marketing costs	847,014.42
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	24,293,448.31
INTERNAL RATE OF RETURN	55.61
BENEFIT-COST RATIO	1.47



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	22,323,538.70	36,988,379.75	55,383,382.15	55,383,382.15
10.00 %	8,500,268.30	17,102,893.51	27,321,902.63	27,321,902.63
20.00 %	2,224,407.64	7,676,678.29	13,701,679.12	13,701,679.12
30.00 %	-727,788.31	2,954,836.83	6,674,125.45	6,674,125.45
40.00 %	-2,121,498.32	499,457.80	2,877,141.61	2,877,141.61
50.00 %	-2,749,234.85	-801,880.85	757,787.26	757,787.26
60.00 %	-2,988,232.28	-1,489,194.32	-448,000.38	-448,000.38
70.00 %	-3,026,745.85	-1,838,560.00	-1,136,732.40	-1,136,732.40
80.00 %	-2,962,297.35	-1,997,364.59	-1,523,687.72	-1,523,687.72
90.00 %	-2,846,839.48	-2,047,174.35	-1,730,315.08	-1,730,315.08
100.00 %	-2,708,563.29	-2,034,479.29	-1,827,388.50	-1,827,388.50

Project 15

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 15 - PSR
 Project description: Establishment of a PV plant.
 Date and time:

Project classification: New project

Construction phase: 12/2012 - 11/2013
 Length: 1 years
 Production phase: 12/2013 - 10/2029
 Length: 16 years

Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	143,803,000.00	13,638,000.00	157,441,000.00
Total pre-production expenditures	1,660,931.93	4,948,743.43	6,609,675.36
<i>Pre-production expenditures (net of interest)</i>	0.00	0.00	0.00
<i>Interest</i>	1,660,931.93	4,948,743.43	6,609,675.36
Increase in net working capital	0.00	0.00	0.00
TOTAL INVESTMENT COSTS	145,463,931.93	18,586,743.43	164,050,675.36

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	46,998,000.00	0.00	46,998,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	46,998,000.00	0.00	46,998,000.00
Total long-term loans	105,780,052.00	4,948,743.43	110,728,795.43
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	105,780,052.00	4,948,743.43	110,728,795.43
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	1,579,500.00	1,579,500.00
TOTAL SOURCES OF FINANCE	152,778,052.00	6,528,243.43	159,306,295.43

INCOME AND COSTS, OPERATIONS

	First year 12/2013-10/2014	Reference year 12/2013-10/2014	Last year 11/2028-10/2029
SALES REVENUE	0.00	0.00	52,793,000.00
Factory costs	0.00	0.00	12,636,000.00
Administrative overhead costs	0.00	0.00	0.00
OPERATING COSTS	0.00	0.00	12,636,000.00
Depreciation	6,504,712.50	6,504,712.50	7,777,950.00
Financial costs	5,510,603.05	5,510,603.05	192,668.10
TOTAL PRODUCTION COSTS	12,015,315.55	12,015,315.55	20,606,618.10
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	12,015,315.55	12,015,315.55	20,606,618.10
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-12,015,315.55	-12,015,315.55	32,186,381.90
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-12,015,315.55	-12,015,315.55	32,186,381.90

SUMMARY SHEET

Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	32,186,381.90
Income (corporate) tax	0.00	0.00	9,012,186.93
NET PROFIT	-12,015,315.55	-12,015,315.55	23,174,194.97

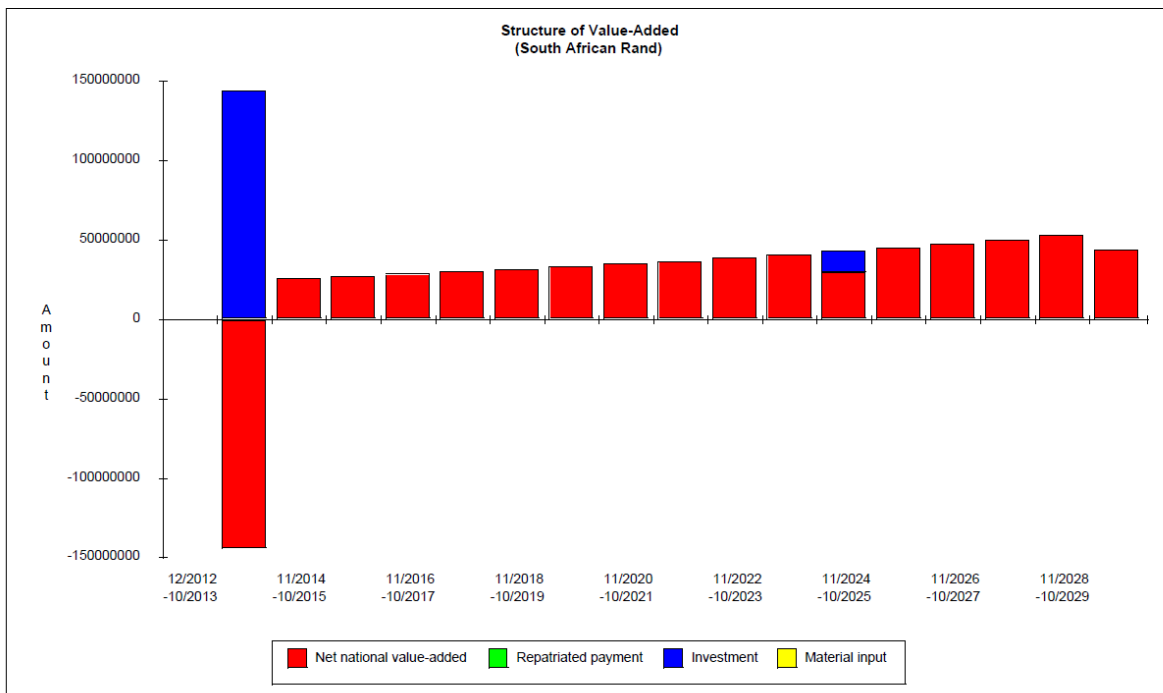
RATIOS

Net Present Value of Total Capital Invested	at 8.00%	58,866,067.02
Internal rate of return on investment (IRR)	13.56%	
Modified IRR on investment	13.56%	
Net Present Value of Total Equity Capital Invested	at 8.00%	42,934,478.45
Internal rate of return on equity (IRRE)	16.02%	
Modified IRRE on equity	16.02%	
Net present values discounted to	10/2013	

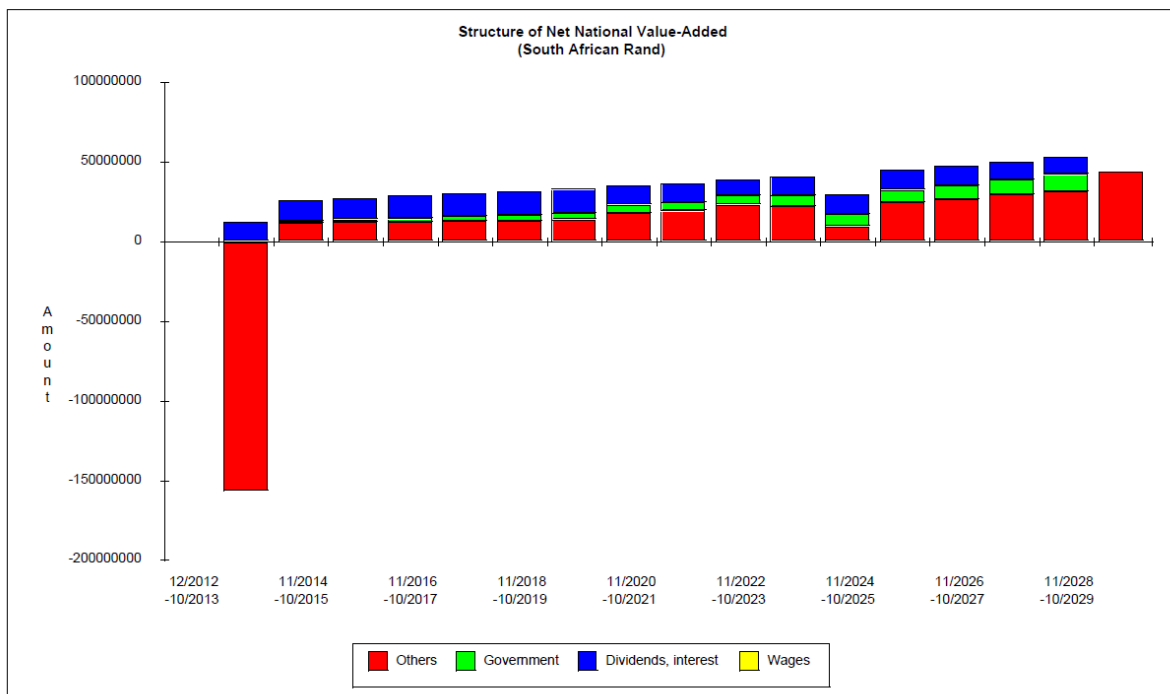
VALUE-ADDED CRITERIA							
South African Rand							
	Present value	Grand total	12/2012 -10/2013	11/2013 -10/2014	11/2014 -10/2015	11/2015 -10/2016	11/2016 -10/2017
Value of output (incl. tax)	217,796,675.93	608,507,869.43	0.00	0.00	25,625,000.00	26,977,000.00	28,481,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	217,796,675.93	608,507,869.43	0.00	0.00	25,625,000.00	26,977,000.00	28,481,000.00
Investment	132,355,411.86	157,441,000.00	0.00	143,803,000.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	85,441,264.07	451,066,869.43	0.00	-143,803,000.00	25,625,000.00	26,977,000.00	28,481,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	85,441,264.07	451,066,869.43	0.00	-143,803,000.00	25,625,000.00	26,977,000.00	28,481,000.00
Distribution of value-added (%)							
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	107.71	45.02	0.00	-8.43	50.49	49.57	48.69
Government to value-added	31.44	18.57	0.00	0.00	4.77	6.69	8.55
Others to value-added	-39.15	36.41	0.00	108.43	44.74	43.74	42.76
Absolute efficiency test							
PV (NNVA) to PV (wages)	0.00						
Relative efficiency test							
PV (NNVA) to PV (investment)	0.65						
PV (NNVA) to PV (foreign exchange)	0.00						
PV (NNVA) to PV (skilled labour)	0.00						
PV (NNVA) to PV (labour)	0.00						

VALUE-ADDED CRITERIA							
South African Rand							
	11/2017 -10/2018	11/2018 -10/2019	11/2019 -10/2020	11/2020 -10/2021	11/2021 -10/2022	11/2022 -10/2023	11/2023 -10/2024
Value of output (incl. tax)	29,900,000.00	31,478,000.00	33,139,000.00	34,986,000.00	36,729,000.00	38,667,000.00	40,707,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	29,900,000.00	31,478,000.00	33,139,000.00	34,986,000.00	36,729,000.00	38,667,000.00	40,707,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	29,900,000.00	31,478,000.00	33,139,000.00	34,986,000.00	36,729,000.00	38,667,000.00	40,707,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	29,900,000.00	31,478,000.00	33,139,000.00	34,986,000.00	36,729,000.00	38,667,000.00	40,707,000.00
Distribution of value-added (%)							
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	47.74	46.84	46.00	35.12	33.55	26.07	29.73
Government to value-added	10.26	11.91	13.41	13.70	14.82	15.19	16.69
Others to value-added	42.00	41.26	40.59	51.18	51.64	58.74	53.57
Absolute efficiency test							
PV (NNVA) to PV (wages)							
Relative efficiency test							
PV (NNVA) to PV (investment)							
PV (NNVA) to PV (foreign exchange)							
PV (NNVA) to PV (skilled labour)							
PV (NNVA) to PV (labour)							

VALUE-ADDED CRITERIA						
South African Rand						
	11/2024 -10/2025	11/2025 -10/2026	11/2026 -10/2027	11/2027 -10/2028	11/2028 -10/2029	Scrap 11/2029-10/2030
Value of output (incl. tax)	42,977,000.00	45,117,000.00	47,498,000.00	50,005,000.00	52,793,000.00	43,428,869.43
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	42,977,000.00	45,117,000.00	47,498,000.00	50,005,000.00	52,793,000.00	43,428,869.43
Investment	13,638,000.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	29,339,000.00	45,117,000.00	47,498,000.00	50,005,000.00	52,793,000.00	43,428,869.43
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	29,339,000.00	45,117,000.00	47,498,000.00	50,005,000.00	52,793,000.00	43,428,869.43
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	41.66	28.81	25.58	23.05	20.51	0.00
Government to value-added	25.72	18.04	18.50	18.94	19.31	0.00
Others to value-added	32.61	53.15	55.92	58.01	60.18	100.00
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						



	Net national value-added	Repatriated payment	Investment	Material input
12/2012-10/2013	0.00	0.00	0.00	0.00
11/2013-10/2014	-143,803,000.00	0.00	143,803,000.00	0.00
11/2014-10/2015	25,625,000.00	0.00	0.00	0.00
11/2015-10/2016	26,977,000.00	0.00	0.00	0.00
11/2016-10/2017	28,481,000.00	0.00	0.00	0.00
11/2017-10/2018	29,900,000.00	0.00	0.00	0.00
11/2018-10/2019	31,478,000.00	0.00	0.00	0.00
11/2019-10/2020	33,139,000.00	0.00	0.00	0.00
11/2020-10/2021	34,986,000.00	0.00	0.00	0.00
11/2021-10/2022	36,729,000.00	0.00	0.00	0.00
11/2022-10/2023	38,667,000.00	0.00	0.00	0.00
11/2023-10/2024	40,707,000.00	0.00	0.00	0.00
11/2024-10/2025	29,339,000.00	0.00	13,638,000.00	0.00
11/2025-10/2026	45,117,000.00	0.00	0.00	0.00
11/2026-10/2027	47,498,000.00	0.00	0.00	0.00
11/2027-10/2028	50,005,000.00	0.00	0.00	0.00
11/2028-10/2029	52,793,000.00	0.00	0.00	0.00
Scrap	43,428,869.43	0.00	0.00	0.00



	Others	Government	Dividends, Interest	Wages
12/2012-10/2013	0.00	0.00	0.00	0.00
11/2013-10/2014	-155,923,278.42	0.00	12,120,278.42	0.00
11/2014-10/2015	11,464,125.58	1,223,409.91	12,937,464.50	0.00
11/2015-10/2016	11,800,022.33	1,803,838.94	13,373,138.73	0.00
11/2016-10/2017	12,178,932.53	2,433,713.44	13,868,354.03	0.00
11/2017-10/2018	12,558,933.97	3,068,039.23	14,273,026.79	0.00
11/2018-10/2019	12,986,863.62	3,747,650.96	14,743,485.42	0.00
11/2019-10/2020	13,451,131.66	4,443,772.85	15,244,095.50	0.00
11/2020-10/2021	17,905,632.94	4,791,979.41	12,288,387.65	0.00
11/2021-10/2022	18,966,016.92	5,441,477.70	12,321,505.38	0.00
11/2022-10/2023	22,711,428.33	5,874,733.25	10,080,838.42	0.00
11/2023-10/2024	21,808,071.13	6,795,917.66	12,103,011.21	0.00
11/2024-10/2025	9,568,790.43	7,547,190.42	12,223,019.15	0.00
11/2025-10/2026	23,979,361.89	8,140,707.17	12,996,930.94	0.00
11/2026-10/2027	26,560,275.34	8,786,624.51	12,151,100.15	0.00
11/2027-10/2028	29,008,595.87	9,471,253.15	11,525,150.98	0.00
11/2028-10/2029	31,769,305.53	10,194,070.87	10,829,623.59	0.00
Scrap	43,428,869.43	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	Present value	Grand total	12/2012 -10/2013	11/2013 -10/2014	11/2014 -10/2015	11/2015 -10/2016	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	
Loans	0.00	0.00	0.00	0.00	0.00	0.00	
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	
Other income	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	
Wages	0.00	0.00	0.00	0.00	0.00	0.00	
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	
Others	0.00	0.00	0.00	0.00	0.00	0.00	
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	
Indirect foreign exchange inflows	181,724,100.78	410,000,000.00	0.00	25,625,000.00	25,625,000.00	25,625,000.00	
Indirect foreign exchange outflows	928,960,725.54	1,789,460,500.00	105,122,000.00	212,630,500.00	105,122,000.00	105,122,000.00	
NET FOREIGN INDIRECT EFFECTS	-747,236,624.77	-1,379,460,500.00	-105,122,000.00	-187,005,500.00	-79,497,000.00	-79,497,000.00	
NET FOREIGN EXCHANGE EFFECTS	-747,236,624.77	-1,379,460,500.00	-105,122,000.00	-187,005,500.00	-79,497,000.00	-79,497,000.00	

NET FOREIGN EXCHANGE EFFECTS							
South African Rand							
	11/2016 -10/2017	11/2017 -10/2018	11/2018 -10/2019	11/2019 -10/2020	11/2020 -10/2021	11/2021 -10/2022	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	
Loans	0.00	0.00	0.00	0.00	0.00	0.00	
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	
Other income	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	
Material input	0.00	0.00	0.00	0.00	0.00	0.00	
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	
Wages	0.00	0.00	0.00	0.00	0.00	0.00	
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	
Others	0.00	0.00	0.00	0.00	0.00	0.00	
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	
Indirect foreign exchange inflows	25,625,000.00	25,625,000.00	25,625,000.00	25,625,000.00	25,625,000.00	25,625,000.00	
Indirect foreign exchange outflows	105,122,000.00	105,122,000.00	105,122,000.00	105,122,000.00	105,122,000.00	105,122,000.00	
NET FOREIGN INDIRECT EFFECTS	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	
NET FOREIGN EXCHANGE EFFECTS	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	11/2022 -10/2023	11/2023 -10/2024	11/2024 -10/2025	11/2025 -10/2026	11/2026 -10/2027	11/2027 -10/2028
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	25,625,000.00	25,625,000.00	25,625,000.00	25,625,000.00	25,625,000.00	25,625,000.00
Indirect foreign exchange outflows	105,122,000.00	105,122,000.00	105,122,000.00	105,122,000.00	105,122,000.00	105,122,000.00
NET FOREIGN INDIRECT EFFECTS	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00
NET FOREIGN EXCHANGE EFFECTS	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00	-79,497,000.00

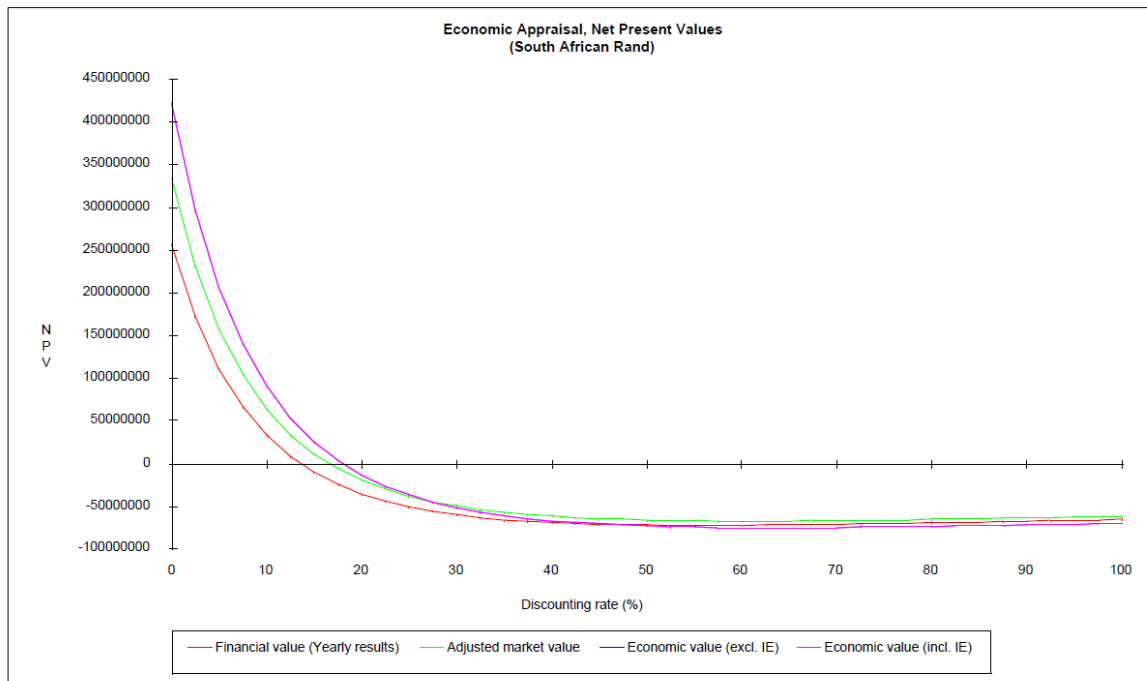
NET FOREIGN EXCHANGE EFFECTS		
South African Rand		
	11/2028 -10/2029	Scrap 11/2029-10/2030
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00
Equity share	0.00	0.00
Loans	0.00	0.00
Subsidies, grants	0.00	0.00
Export of products	0.00	0.00
Other income	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00
Fixed investments	0.00	0.00
Material input	0.00	0.00
Debt service	0.00	0.00
Wages	0.00	0.00
Equity capital refund	0.00	0.00
Dividends transfer	0.00	0.00
Others	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00
Indirect foreign exchange inflows	25,625,000.00	0.00
Indirect foreign exchange outflows	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	25,625,000.00	0.00
NET FOREIGN EXCHANGE EFFECTS	25,625,000.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	164,050,675.36	0.00	0.00	0.00
Indirect employment	7.00	11.00	18.00	0.00	0.00	0.00	0.00
Total employment	7.00	11.00	18.00	164,050,675.36	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	0.00	0.00	0.00

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	217,796,675.93	1.00	217,796,675.93	96.60	42,090,470.38	259,887,146.31	0.00
Inflow operation	210,401,853.43	1.00	210,401,853.43	100.00	42,090,470.38	252,492,323.81	0.00
Other income	7,394,822.50	1.00	7,394,822.50	0.00	0.00	7,394,822.50	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	202,057,485.18	0.87	174,918,031.94	58.31	20,404,716.21	195,322,748.15	0.00
Increase in fixed assets	138,272,757.75	0.97	133,831,217.91	76.21	20,404,716.21	154,235,934.13	0.00
Increase in net working capital	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operating costs	41,086,814.03	1.00	41,086,814.03	0.00	0.00	41,086,814.03	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	22,697,913.40	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	15,739,190.76	2.72	42,878,643.99	252.81	21,685,754.17	64,564,398.16	0.00
INTERNAL RATE OF RETURN	13.56	---	16.58	---	---	18.03	---
BENEFIT-COST RATIO	1.08	---	1.25	---	---	1.33	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	259,887,146.31
Inflow operation	252,492,323.81
Other income	7,394,822.50
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	195,322,748.15
Increase in fixed assets	154,235,934.13
Increase in net working capital	0.00
Operating costs	41,086,814.03
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	64,564,398.16
INTERNAL RATE OF RETURN	18.03
BENEFIT-COST RATIO	1.33



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	256,586,790.32	333,359,394.07	421,689,789.12	421,689,789.12
10.00 %	33,278,586.04	64,113,387.56	90,878,217.19	90,878,217.19
20.00 %	-35,345,507.37	-19,268,292.10	-12,935,630.91	-12,935,630.91
30.00 %	-59,730,429.36	-49,496,380.67	-51,238,995.56	-51,238,995.56
40.00 %	-68,791,155.94	-61,330,875.42	-66,677,362.82	-66,677,362.82
50.00 %	-71,694,346.94	-65,764,225.00	-72,833,521.58	-72,833,521.58
60.00 %	-71,853,401.61	-66,873,859.42	-74,776,931.82	-74,776,931.82
70.00 %	-70,714,292.77	-66,381,431.48	-74,660,323.38	-74,660,323.38
80.00 %	-68,952,883.94	-65,091,067.29	-73,495,114.13	-73,495,114.13
90.00 %	-66,908,460.96	-63,407,805.70	-71,794,287.53	-71,794,287.53
100.00 %	-64,759,755.27	-61,546,961.23	-69,832,950.82	-69,832,950.82

Project 16

COMFAR III Expert

INDUSTRIAL DEVELOPMENT CORPORATION, South Africa

SUMMARY SHEET

Project title: Project 16 - SCS
 Project description: Establishment of a solar thermal project in order to produce power from concentrated solar power.
 Date and time:
 Project classification: New project
 Construction phase: 1/2011 - 12/2013
 Length: 3 years
 Production phase: 1/2014 - 11/2035
 Length: 22 years
 Accounting currency: South African Rand (ZAR)
 Units: Absolute
 Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	3,488,000,000.00	378,000,000.00	3,866,000,000.00
Total pre-production expenditures	432,055,281.74	0.00	432,055,281.74
<i>Pre-production expenditures (net of interest)</i>	0.00	0.00	0.00
<i>Interest</i>	432,055,281.74	0.00	432,055,281.74
Increase in net working capital	0.00	0.00	0.00
TOTAL INVESTMENT COSTS	3,920,055,281.74	378,000,000.00	4,298,055,281.74

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	1,203,000,000.00	131,000,000.00	1,334,000,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	1,203,000,000.00	131,000,000.00	1,334,000,000.00
Total long-term loans	3,147,398,311.30	433,000,000.00	3,580,398,311.30
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	3,147,398,311.30	433,000,000.00	3,580,398,311.30
Total short-term loans	0.00	0.00	0.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	0.00	0.00
Accounts payable	0.00	39,625,000.00	39,625,000.00
TOTAL SOURCES OF FINANCE	4,350,398,311.30	603,625,000.00	4,954,023,311.30

INCOME AND COSTS, OPERATIONS

	First year 1/2014-11/2014	Reference year 1/2014-11/2014	Last year 12/2034-11/2035
SALES REVENUE	0.00	0.00	504,000,000.00
Factory costs	0.00	0.00	204,000,000.00
Administrative overhead costs	0.00	0.00	0.00
OPERATING COSTS	0.00	0.00	204,000,000.00
Depreciation	137,300,724.64	137,300,724.64	166,217,391.30
Financial costs	346,519,752.45	346,519,752.45	0.00
TOTAL PRODUCTION COSTS	483,820,477.09	483,820,477.09	370,217,391.30
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	483,820,477.09	483,820,477.09	370,217,391.30
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-483,820,477.09	-483,820,477.09	133,782,608.70
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00

SUMMARY SHEET

GROSS PROFIT	-483,820,477.09	-483,820,477.09	133,782,608.70
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	133,782,608.70
Income (corporate) tax	0.00	0.00	37,459,130.43
NET PROFIT	-483,820,477.09	-483,820,477.09	96,323,478.26

RATIOS

Net Present Value of Total Capital Invested	at 15.00%	83,875,725.39
Internal rate of return on investment (IRR)	15.36%	
Modified IRR on investment	15.36%	
Net Present Value of Total Equity Capital Invested	at 15.00%	743,510,472.84
Internal rate of return on equity (IRRE)	25.49%	
Modified IRRE on equity	25.49%	
Net present values discounted to	11/2011	

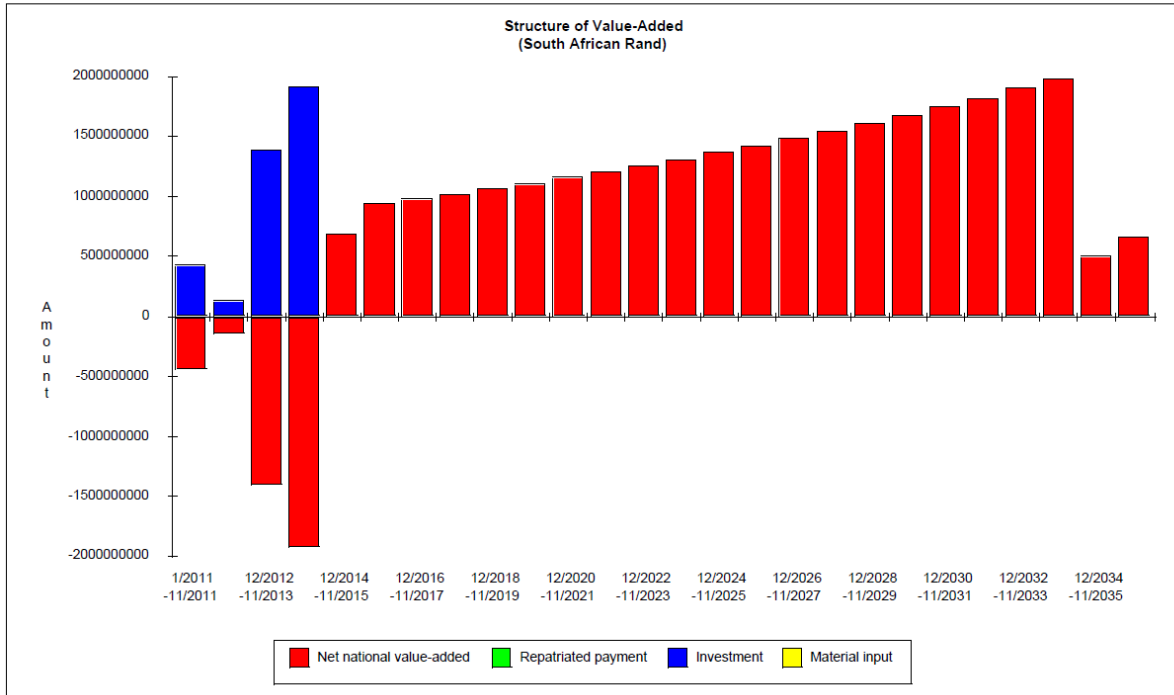
VALUE-ADDED CRITERIA						
South African Rand						
	Present value	Grand total	1/2011 -11/2011	12/2011 -11/2012	12/2012 -11/2013	12/2013 -11/2014
Value of output (incl. tax)	6,435,566,271.33	28,461,189,339.71	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	6,435,566,271.33	28,461,189,339.71	0.00	0.00	0.00	0.00
Investment	3,035,294,426.85	3,866,000,000.00	424,000,000.00	138,000,000.00	1,394,000,000.00	1,910,000,000.00
NET DOMESTIC VALUE-ADDED	3,400,271,844.48	24,595,189,339.71	-424,000,000.00	-138,000,000.00	-1,394,000,000.00	-1,910,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	3,400,271,844.48	24,595,189,339.71	-424,000,000.00	-138,000,000.00	-1,394,000,000.00	-1,910,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	92.71	47.60	-20.96	-77.95	-16.90	-18.14
Government to value-added	34.62	24.48	0.00	0.00	0.00	0.00
Others to value-added	-27.33	27.92	120.96	177.95	116.90	118.14
Absolute efficiency test						
PV (NNVA) to PV (wages)	0.00					
Relative efficiency test						
PV (NNVA) to PV (investment)	1.12					
PV (NNVA) to PV (foreign exchange)	0.00					
PV (NNVA) to PV (skilled labour)	0.00					
PV (NNVA) to PV (labour)	0.00					

VALUE-ADDED CRITERIA						
South African Rand						
	12/2014 -11/2015	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	12/2018 -11/2019	12/2019 -11/2020
Value of output (incl. tax)	682,000,000.00	940,000,000.00	982,000,000.00	1,021,000,000.00	1,064,000,000.00	1,109,000,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	682,000,000.00	940,000,000.00	982,000,000.00	1,021,000,000.00	1,064,000,000.00	1,109,000,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	682,000,000.00	940,000,000.00	982,000,000.00	1,021,000,000.00	1,064,000,000.00	1,109,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	682,000,000.00	940,000,000.00	982,000,000.00	1,021,000,000.00	1,064,000,000.00	1,109,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	51.31	33.89	29.20	48.29	52.73	51.67
Government to value-added	3.28	9.81	11.29	15.22	17.47	18.98
Others to value-added	45.41	56.30	59.51	36.49	29.80	29.35
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

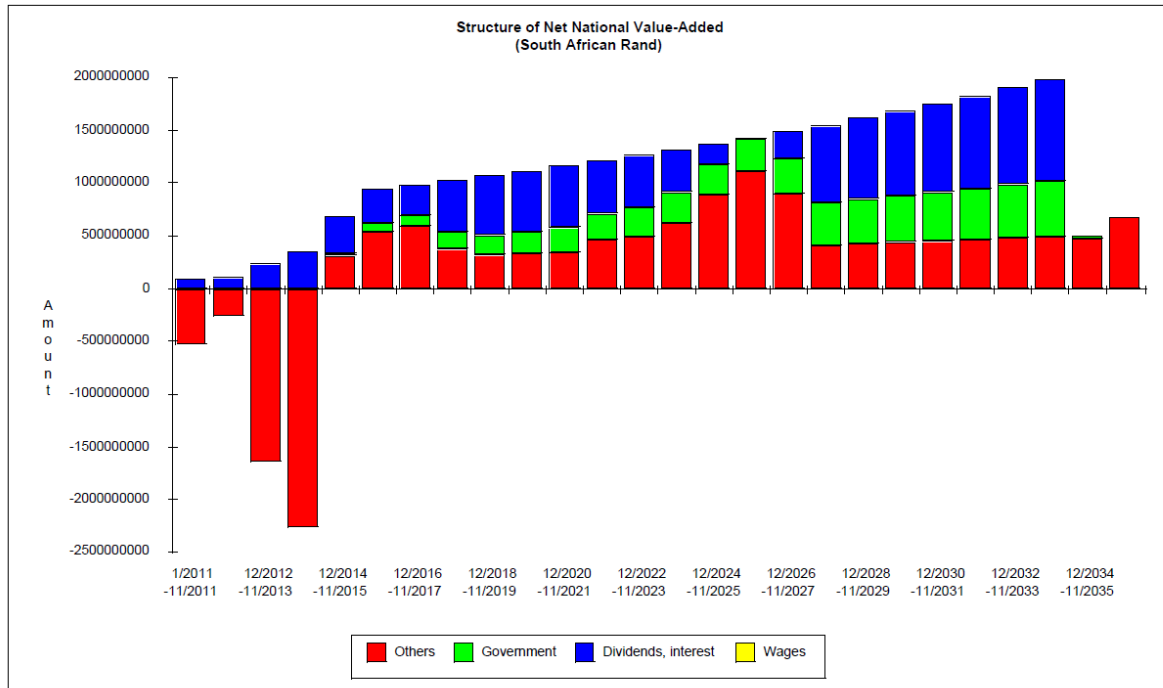
VALUE-ADDED CRITERIA						
South African Rand						
	12/2020 -11/2021	12/2021 -11/2022	12/2022 -11/2023	12/2023 -11/2024	12/2024 -11/2025	12/2025 -11/2026
Value of output (incl. tax)	1,159,000,000.00	1,205,000,000.00	1,256,000,000.00	1,309,000,000.00	1,368,000,000.00	1,422,000,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	1,159,000,000.00	1,205,000,000.00	1,256,000,000.00	1,309,000,000.00	1,368,000,000.00	1,422,000,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	1,159,000,000.00	1,205,000,000.00	1,256,000,000.00	1,309,000,000.00	1,368,000,000.00	1,422,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	1,159,000,000.00	1,205,000,000.00	1,256,000,000.00	1,309,000,000.00	1,368,000,000.00	1,422,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	50.75	41.45	38.86	30.98	13.82	0.95
Government to value-added	20.42	20.78	21.77	22.11	21.32	20.70
Others to value-added	28.82	37.77	39.38	46.91	64.86	78.35
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA						
South African Rand						
	12/2026 -11/2027	12/2027 -11/2028	12/2028 -11/2029	12/2029 -11/2030	12/2030 -11/2031	12/2031 -11/2032
Value of output (incl. tax)	1,482,000,000.00	1,544,000,000.00	1,614,000,000.00	1,677,000,000.00	1,748,000,000.00	1,822,000,000.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	1,482,000,000.00	1,544,000,000.00	1,614,000,000.00	1,677,000,000.00	1,748,000,000.00	1,822,000,000.00
Investment	0.00	0.00	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	1,482,000,000.00	1,544,000,000.00	1,614,000,000.00	1,677,000,000.00	1,748,000,000.00	1,822,000,000.00
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	1,482,000,000.00	1,544,000,000.00	1,614,000,000.00	1,677,000,000.00	1,748,000,000.00	1,822,000,000.00
Distribution of value-added (%)						
Wages to value-added	0.00	0.00	0.00	0.00	0.00	0.00
Dividends, interest to value-added	17.23	47.56	47.77	47.89	48.07	48.23
Government to value-added	22.60	26.05	26.16	26.22	26.32	26.41
Others to value-added	60.17	26.39	26.08	25.89	25.61	25.36
Absolute efficiency test						
PV (NNVA) to PV (wages)						
Relative efficiency test						
PV (NNVA) to PV (investment)						
PV (NNVA) to PV (foreign exchange)						
PV (NNVA) to PV (skilled labour)						
PV (NNVA) to PV (labour)						

VALUE-ADDED CRITERIA				
South African Rand				
	12/2032 -11/2033	12/2033 -11/2034	12/2034 -11/2035	Scrap 12/2035-11/2036
Value of output (incl. tax)	1,904,000,000.00	1,979,000,000.00	504,000,000.00	670,189,339.71
Material input	0.00	0.00	0.00	0.00
GROSS DOMESTIC VALUE-ADDED	1,904,000,000.00	1,979,000,000.00	504,000,000.00	670,189,339.71
Investment	0.00	0.00	0.00	0.00
NET DOMESTIC VALUE-ADDED	1,904,000,000.00	1,979,000,000.00	504,000,000.00	670,189,339.71
Repatriated payment	0.00	0.00	0.00	0.00
NET NATIONAL VALUE-ADDED	1,904,000,000.00	1,979,000,000.00	504,000,000.00	670,189,339.71
Distribution of value-added (%)				
Wages to value-added	0.00	0.00	0.00	0.00
Dividends, interest to value-added	48.38	48.49	0.00	0.00
Government to value-added	26.49	26.55	7.43	0.00
Others to value-added	25.13	24.96	92.57	100.00
Absolute efficiency test				
PV (NNVA) to PV (wages)				
Relative efficiency test				
PV (NNVA) to PV (investment)				
PV (NNVA) to PV (foreign exchange)				
PV (NNVA) to PV (skilled labour)				
PV (NNVA) to PV (labour)				



	Net national value-added	Repatriated payment	Investment	Material input
1/2011-11/2011	-424,000,000.00	0.00	424,000,000.00	0.00
12/2011-11/2012	-138,000,000.00	0.00	138,000,000.00	0.00
12/2012-11/2013	-1,394,000,000.00	0.00	1,394,000,000.00	0.00
12/2013-11/2014	-1,910,000,000.00	0.00	1,910,000,000.00	0.00
12/2014-11/2015	682,000,000.00	0.00	0.00	0.00
12/2015-11/2016	940,000,000.00	0.00	0.00	0.00
12/2016-11/2017	982,000,000.00	0.00	0.00	0.00
12/2017-11/2018	1,021,000,000.00	0.00	0.00	0.00
12/2018-11/2019	1,064,000,000.00	0.00	0.00	0.00
12/2019-11/2020	1,109,000,000.00	0.00	0.00	0.00
12/2020-11/2021	1,159,000,000.00	0.00	0.00	0.00
12/2021-11/2022	1,205,000,000.00	0.00	0.00	0.00
12/2022-11/2023	1,256,000,000.00	0.00	0.00	0.00
12/2023-11/2024	1,309,000,000.00	0.00	0.00	0.00
12/2024-11/2025	1,368,000,000.00	0.00	0.00	0.00
12/2025-11/2026	1,422,000,000.00	0.00	0.00	0.00
12/2026-11/2027	1,482,000,000.00	0.00	0.00	0.00
12/2027-11/2028	1,544,000,000.00	0.00	0.00	0.00
12/2028-11/2029	1,614,000,000.00	0.00	0.00	0.00
12/2029-11/2030	1,677,000,000.00	0.00	0.00	0.00
12/2030-11/2031	1,748,000,000.00	0.00	0.00	0.00
12/2031-11/2032	1,822,000,000.00	0.00	0.00	0.00
12/2032-11/2033	1,904,000,000.00	0.00	0.00	0.00
12/2033-11/2034	1,979,000,000.00	0.00	0.00	0.00
12/2034-11/2035	504,000,000.00	0.00	0.00	0.00
Scrap	670,189,339.71	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
1/2011-11/2011	-512,855,074.77	0.00	88,855,074.77	0.00
12/2011-11/2012	-245,567,921.90	0.00	107,567,921.90	0.00
12/2012-11/2013	-1,629,632,285.07	0.00	235,632,285.07	0.00
12/2013-11/2014	-2,256,519,752.45	0.00	346,519,752.45	0.00
12/2014-11/2015	309,706,450.20	22,356,856.24	349,936,693.56	0.00
12/2015-11/2016	529,239,071.35	92,175,097.80	318,585,830.85	0.00
12/2016-11/2017	584,375,102.94	110,894,665.63	286,730,231.43	0.00
12/2017-11/2018	372,518,612.23	155,439,529.06	493,041,858.70	0.00
12/2018-11/2019	317,027,958.64	185,913,346.31	561,058,695.05	0.00
12/2019-11/2020	325,530,664.93	210,439,827.56	573,029,507.51	0.00
12/2020-11/2021	334,069,371.22	236,722,708.82	588,207,919.97	0.00
12/2021-11/2022	455,178,887.72	250,340,509.05	499,480,603.23	0.00
12/2022-11/2023	494,552,203.53	273,387,929.36	488,059,867.11	0.00
12/2023-11/2024	614,077,342.41	289,376,167.35	405,546,490.24	0.00
12/2024-11/2025	887,319,366.20	291,600,716.86	189,079,916.94	0.00
12/2025-11/2026	1,114,121,600.00	294,325,057.39	13,553,342.61	0.00
12/2026-11/2027	891,693,217.39	334,915,895.65	255,390,886.96	0.00
12/2027-11/2028	407,459,826.09	402,139,234.78	734,400,939.13	0.00
12/2028-11/2029	420,870,226.09	422,162,194.78	770,967,579.13	0.00
12/2029-11/2030	434,230,226.09	439,726,194.78	803,043,579.13	0.00
12/2030-11/2031	447,647,826.09	460,100,434.78	840,251,739.13	0.00
12/2031-11/2032	462,079,826.09	481,177,234.78	878,742,939.13	0.00
12/2032-11/2033	478,555,026.09	504,361,714.78	921,083,259.13	0.00
12/2033-11/2034	493,987,026.09	525,438,514.78	959,574,459.13	0.00
12/2034-11/2035	466,540,869.57	37,459,130.43	0.00	0.00
Scrap	670,189,339.71	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	Present value	Grand total	1/2011 -1/2011	12/2011 -11/2012	12/2012 -11/2013	12/2013 -11/2014
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	4,262,320,695.59	15,004,000,000.00	0.00	0.00	0.00	682,000,000.00
Indirect foreign exchange outflows	570,188,166.10	690,000,000.00	138,000,000.00	138,000,000.00	138,000,000.00	276,000,000.00
NET FOREIGN INDIRECT EFFECTS	3,692,132,529.49	14,314,000,000.00	-138,000,000.00	-138,000,000.00	-138,000,000.00	406,000,000.00
NET FOREIGN EXCHANGE EFFECTS	3,692,132,529.49	14,314,000,000.00	-138,000,000.00	-138,000,000.00	-138,000,000.00	406,000,000.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	12/2014 -11/2015	12/2015 -11/2016	12/2016 -11/2017	12/2017 -11/2018	12/2018 -11/2019	12/2019 -11/2020
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00
NET FOREIGN EXCHANGE EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	12/2020 -11/2021	12/2021 -11/2022	12/2022 -11/2023	12/2023 -11/2024	12/2024 -11/2025	12/2025 -11/2026
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00
NET FOREIGN EXCHANGE EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00

NET FOREIGN EXCHANGE EFFECTS						
South African Rand						
	12/2026	12/2027	12/2028	12/2029	12/2030	12/2031
	-11/2027	-11/2028	-11/2029	-11/2030	-11/2031	-11/2032
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00
NET FOREIGN EXCHANGE EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00	682,000,000.00

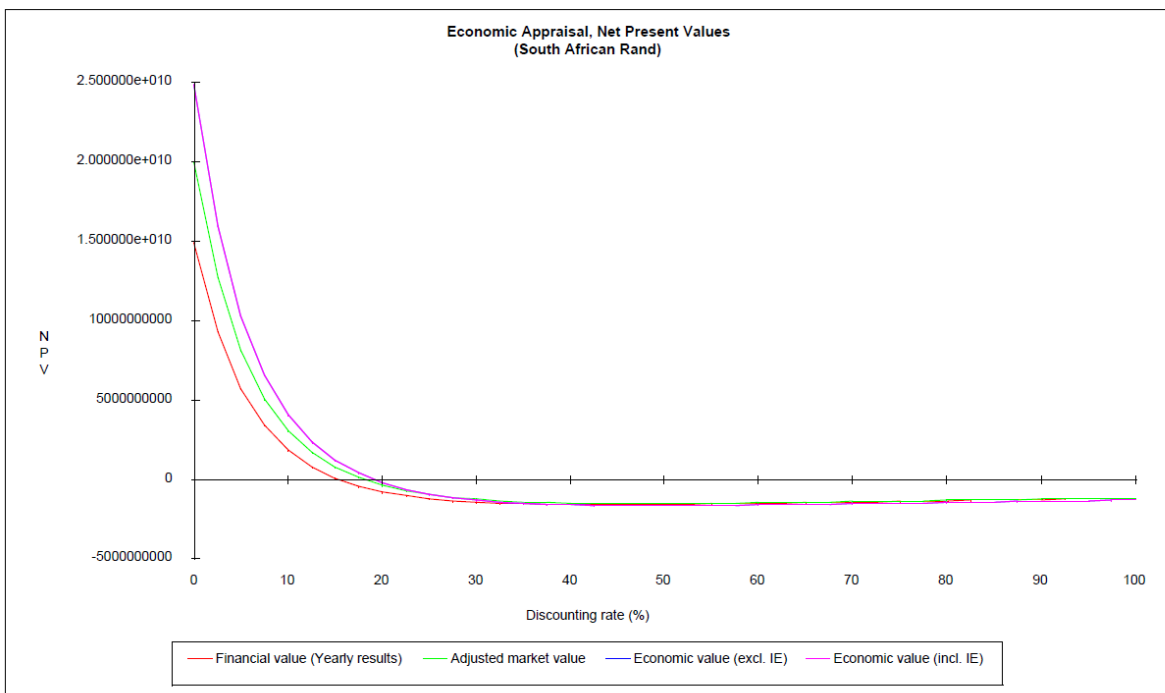
NET FOREIGN EXCHANGE EFFECTS				
South African Rand				
	12/2032	12/2033	12/2034	Scrap
	-11/2033	-11/2034	-11/2035	12/2035-11/2036
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	682,000,000.00	682,000,000.00	682,000,000.00	0.00
Indirect foreign exchange outflows	0.00	0.00	0.00	0.00
NET FOREIGN INDIRECT EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	0.00
NET FOREIGN EXCHANGE EFFECTS	682,000,000.00	682,000,000.00	682,000,000.00	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	4,298,055,281.74	0.00	0.00	0.00
Indirect employment	30.00	45.00	75.00	0.00	0.00	0.00	0.00
Total employment	30.00	45.00	75.00	4,298,055,281.74	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	0.00	0.00
Indirect employment	0.00	0.00	0.00
Total employment	0.00	0.00	0.00

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	6,435,566,271.33	1.00	6,435,566,271.33	99.27	1,278,002,072.38	7,713,568,343.71	0.00
Inflow operation	6,388,477,066.08	1.00	6,388,477,066.08	100.00	1,278,002,072.38	7,666,479,138.46	0.00
Other income	47,089,205.25	1.00	47,089,205.25	0.00	0.00	47,089,205.25	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	5,333,360,207.44	0.81	4,325,691,437.58	60.37	522,384,232.52	4,848,075,670.09	0.00
Increase in fixed assets	3,409,305,220.58	1.00	3,405,005,220.58	76.69	522,384,232.52	3,927,389,453.10	0.00
Increase in net working capital	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operating costs	920,686,217.00	1.00	920,686,217.00	0.00	0.00	920,686,217.00	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	1,003,368,769.87	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	1,102,206,063.89	1.91	2,109,874,833.75	179.02	755,617,839.86	2,865,492,673.62	0.00
INTERNAL RATE OF RETURN	15.36	---	18.06	---	---	19.11	---
BENEFIT-COST RATIO	1.21	---	1.49	---	---	1.59	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	7,713,568,343.71
Inflow operation	7,666,479,138.46
Other income	47,089,205.25
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	4,848,075,670.09
Increase in fixed assets	3,927,389,453.10
Increase in net working capital	0.00
Operating costs	920,686,217.00
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	2,865,492,673.62
INTERNAL RATE OF RETURN	19.11
BENEFIT-COST RATIO	1.59



Discounting rate (%)	Financial value (Yearly results)	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	14,883,972,516.44	19,924,434,057.97	24,795,402,856.72	24,795,402,856.72
10.00 %	1,859,057,156.24	3,092,696,514.86	4,080,075,017.75	4,080,075,017.75
20.00 %	-778,101,514.83	-351,302,064.12	-186,329,227.26	-186,329,227.26
30.00 %	-1,427,526,272.65	-1,237,462,028.73	-1,297,910,019.14	-1,297,910,019.14
40.00 %	-1,568,899,275.25	-1,468,269,459.02	-1,597,560,440.96	-1,597,560,440.96
50.00 %	-1,554,926,010.04	-1,494,844,622.89	-1,642,330,984.65	-1,642,330,984.65
60.00 %	-1,491,050,637.57	-1,451,875,003.97	-1,599,064,939.75	-1,599,064,939.75
70.00 %	-1,413,788,263.21	-1,386,428,732.31	-1,526,350,169.42	-1,526,350,169.42
80.00 %	-1,336,733,816.37	-1,316,522,168.64	-1,446,795,448.21	-1,446,795,448.21
90.00 %	-1,264,894,691.03	-1,249,237,925.75	-1,369,421,488.74	-1,369,421,488.74
100.00 %	-1,199,823,283.15	-1,187,191,110.20	-1,297,666,995.05	-1,297,666,995.05

Project 17

SUMMARY SHEET

Project title: Project 17 - SASSA
 Project description: Establishment of a solar water heat systems facility.
 Date and time:

Project classification: Expansion/rehabilitation project

Construction phase: 2/2009 - 1/2009

Length:

Production phase: 2/2009 - 1/2014

Length: 5 years

Accounting currency: South African Rand (ZAR)

Units: Absolute

Local currency: South African Rand (ZAR)

INVESTMENT COSTS

	Total construction	Total production	Total investment
Total fixed investment costs	29,000.00	3,317,000.00	3,346,000.00
Total pre-production expenditures	0.00	91,203.11	91,203.11
<i>Pre-production expenditures (net of interest)</i>	0.00	0.00	0.00
<i>Interest</i>	0.00	91,203.11	91,203.11
Increase in net working capital	0.00	21,438,601.67	21,438,601.67
TOTAL INVESTMENT COSTS	29,000.00	24,846,804.78	24,875,804.78

SOURCES OF FINANCE

	Total construction	Total production	Total inflow
Total equity capital	120.00	0.00	120.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	120.00	0.00	120.00
Total long-term loans	0.00	89,230,000.00	89,230,000.00
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	89,230,000.00	89,230,000.00
Total short-term loans	0.00	51,029,203.11	51,029,203.11
<i>Foreign</i>	0.00	0.00	0.00
<i>Local</i>	0.00	51,029,203.11	51,029,203.11
Accounts payable	0.00	49,860,180.56	49,860,180.56
TOTAL SOURCES OF FINANCE	120.00	190,119,383.66	190,119,503.66

INCOME AND COSTS, OPERATIONS

	First year 2/2009-1/2010	Reference year 2/2009-1/2010	Last year 2/2013-1/2014
SALES REVENUE	10,368,000.00	10,368,000.00	271,109,000.00
Factory costs	11,659,020.00	11,659,020.00	249,145,860.00
Administrative overhead costs	0.00	0.00	1,381,000.00
OPERATING COSTS	11,659,020.00	11,659,020.00	250,526,860.00
Depreciation	6,650.00	6,650.00	354,450.00
Financial costs	510,292.03	510,292.03	223,252.76
TOTAL PRODUCTION COSTS	12,175,962.03	12,175,962.03	251,104,562.76
Marketing costs	0.00	0.00	0.00
COSTS OF PRODUCTS	12,175,962.03	12,175,962.03	251,104,562.76
Interest on short-term deposits	0.00	0.00	0.00
GROSS PROFIT FROM OPERATIONS	-1,807,962.03	-1,807,962.03	20,004,437.24
Extraordinary income	0.00	0.00	0.00
Extraordinary loss	0.00	0.00	0.00
Depreciation allowances	0.00	0.00	0.00
GROSS PROFIT	-1,807,962.03	-1,807,962.03	20,004,437.24

SUMMARY SHEET

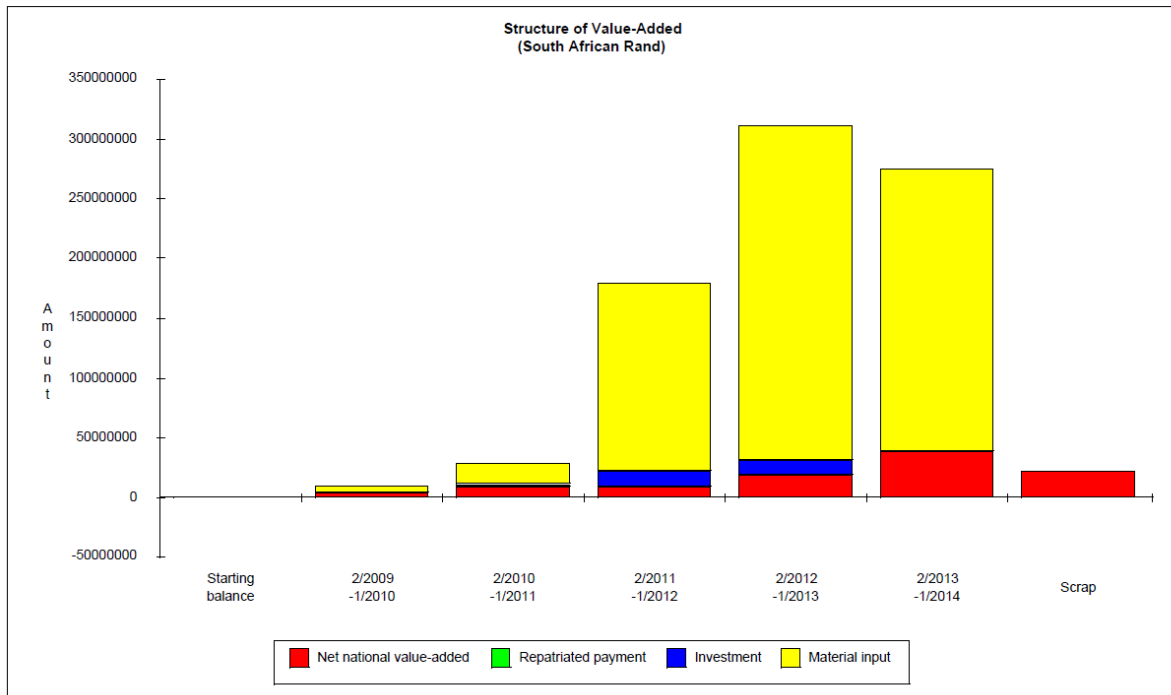
Investment allowances	0.00	0.00	0.00
TAXABLE PROFIT	0.00	0.00	20,004,437.24
Income (corporate) tax	0.00	0.00	5,601,242.43
NET PROFIT	-1,807,962.03	-1,807,962.03	14,403,194.81

RATIOS

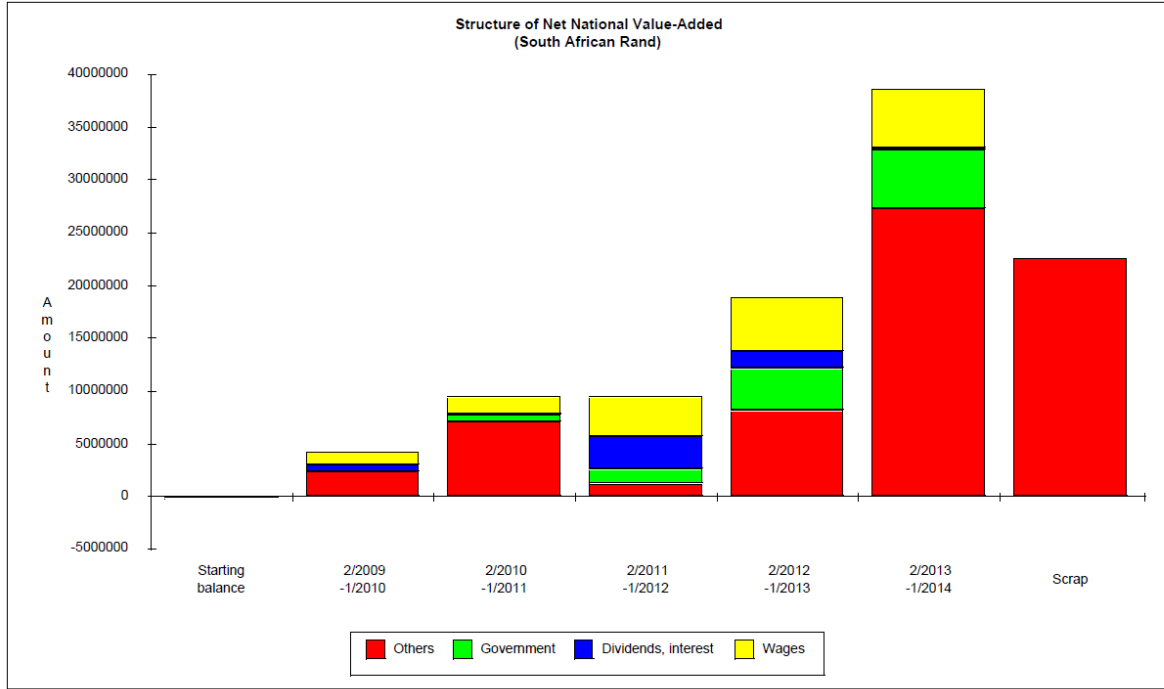
Net Present Value of Total Capital Invested	at 8.00%	21,890,438.87
Internal rate of return on investment (IRR)	88.50%	
Modified IRR on investment	88.49%	
Net Present Value of Total Equity Capital Invested	at 8.00%	24,392,939.18
Internal rate of return on equity (IRRE)	374.60%	
Modified IRRE on equity	374.60%	
Net present values discounted to	2/2009	

VALUE-ADDED CRITERIA									
South African Rand									
	Present value	Grand total	Starting balance	2/2009 -1/2010	2/2010 -1/2011	2/2011 -1/2012	2/2012 -1/2013	2/2013 -1/2014	
Value of output (incl. tax)	532,677,125.80	828,057,719.78	0.00	10,368,000.00	29,030,000.00	179,902,000.00	311,417,000.00	274,838,250.00	
Material input	448,762,082.86	698,146,000.00	0.00	5,642,000.00	18,078,000.00	157,837,000.00	280,670,000.00	235,919,000.00	
GROSS DOMESTIC VALUE-ADDED	83,915,042.94	129,911,719.78	0.00	4,726,000.00	10,952,000.00	22,065,000.00	30,747,000.00	38,919,250.00	
Investment	18,462,313.04	26,735,166.67	29,000.00	470,166.67	1,439,333.33	12,644,583.33	11,851,083.33	301,000.00	
NET DOMESTIC VALUE-ADDED	65,452,729.90	103,176,553.11	-29,000.00	4,255,833.33	9,512,666.67	9,420,416.67	18,895,916.67	38,618,250.00	
Repatriated payment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
NET NATIONAL VALUE-ADDED	65,452,729.90	103,176,553.11	-29,000.00	4,255,833.33	9,512,666.67	9,420,416.67	18,895,916.67	38,618,250.00	
Distribution of value-added (%)									
Wages to value-added	17.78	16.82	0.00	29.82	17.65	39.23	27.25	14.40	
Dividends, interest to value-added	5.97	5.34	0.00	12.89	0.56	32.85	8.44	0.58	
Government to value-added	11.20	11.30	0.00	0.00	7.36	14.50	21.14	14.50	
Others to value-added	65.05	66.53	100.00	57.29	74.43	13.43	43.17	70.52	
Absolute efficiency test									
PV (NNVA) to PV (wages)	5.62								
Relative efficiency test									
PV (NNVA) to PV (investment)	3.55								
PV (NNVA) to PV (foreign exchange)	0.00								
PV (NNVA) to PV (skilled labour)	5.62								
PV (NNVA) to PV (labour)	5.62								

VALUE-ADDED CRITERIA	
South African Rand	
	Scrap 2/2014-1/2015
Value of output (incl. tax)	22,502,469.78
Material input	0.00
GROSS DOMESTIC VALUE-ADDED	22,502,469.78
Investment	0.00
NET DOMESTIC VALUE-ADDED	22,502,469.78
Repatriated payment	0.00
NET NATIONAL VALUE-ADDED	22,502,469.78
Distribution of value-added (%)	
Wages to value-added	0.00
Dividends, interest to value-added	0.00
Government to value-added	0.00
Others to value-added	100.00
Absolute efficiency test	
PV (NNVA) to PV (wages)	
Relative efficiency test	
PV (NNVA) to PV (investment)	
PV (NNVA) to PV (foreign exchange)	
PV (NNVA) to PV (skilled labour)	
PV (NNVA) to PV (labour)	



	Net national value-added	Repatriated payment	Investment	Material input
Starting balance	-29,000.00	0.00	29,000.00	0.00
2/2009-1/2010	4,255,833.33	0.00	470,166.67	5,642,000.00
2/2010-1/2011	9,512,666.67	0.00	1,439,333.33	18,078,000.00
2/2011-1/2012	9,420,416.67	0.00	12,644,583.33	157,837,000.00
2/2012-1/2013	18,895,916.67	0.00	11,851,083.33	280,670,000.00
2/2013-1/2014	38,618,250.00	0.00	301,000.00	235,919,000.00
Scrap	22,502,469.78	0.00	0.00	0.00



	Others	Government	Dividends, interest	Wages
Starting balance	-29,000.00	0.00	0.00	0.00
2/2009-1/2010	2,438,116.63	0.00	548,696.70	1,269,020.00
2/2010-1/2011	7,080,500.63	700,537.60	52,798.44	1,678,830.00
2/2011-1/2012	1,264,898.41	1,365,984.57	3,094,288.69	3,695,245.00
2/2012-1/2013	8,157,290.40	3,994,053.67	1,594,662.60	5,149,910.00
2/2013-1/2014	27,231,894.81	5,601,242.43	223,252.76	5,561,860.00
Scrap	22,502,469.78	0.00	0.00	0.00

NET FOREIGN EXCHANGE EFFECTS									
South African Rand									
	Present value	Grand total	Starting balance	2/2009-1/2010	2/2010-1/2011	2/2011-1/2012	2/2012-1/2013	2/2013-1/2014	
TOTAL FOREIGN EXCHANGE INFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Subsidies, grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Export of products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Material input	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Equity capital refund	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dividends transfer	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET FOREIGN EXCHANGE FLOW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect foreign exchange inflows	37,653,760.39	51,840,000.00	0.00	10,368,000.00	10,368,000.00	10,368,000.00	10,368,000.00	10,368,000.00	10,368,000.00
Indirect foreign exchange outflows	22,356,798.37	30,628,000.00	403,000.00	6,045,000.00	6,045,000.00	6,045,000.00	6,045,000.00	6,045,000.00	6,045,000.00
NET FOREIGN INDIRECT EFFECTS	15,296,962.01	21,212,000.00	-403,000.00	4,323,000.00	4,323,000.00	4,323,000.00	4,323,000.00	4,323,000.00	4,323,000.00
NET FOREIGN EXCHANGE EFFECTS	15,296,962.01	21,212,000.00	-403,000.00	4,323,000.00	4,323,000.00	4,323,000.00	4,323,000.00	4,323,000.00	4,323,000.00

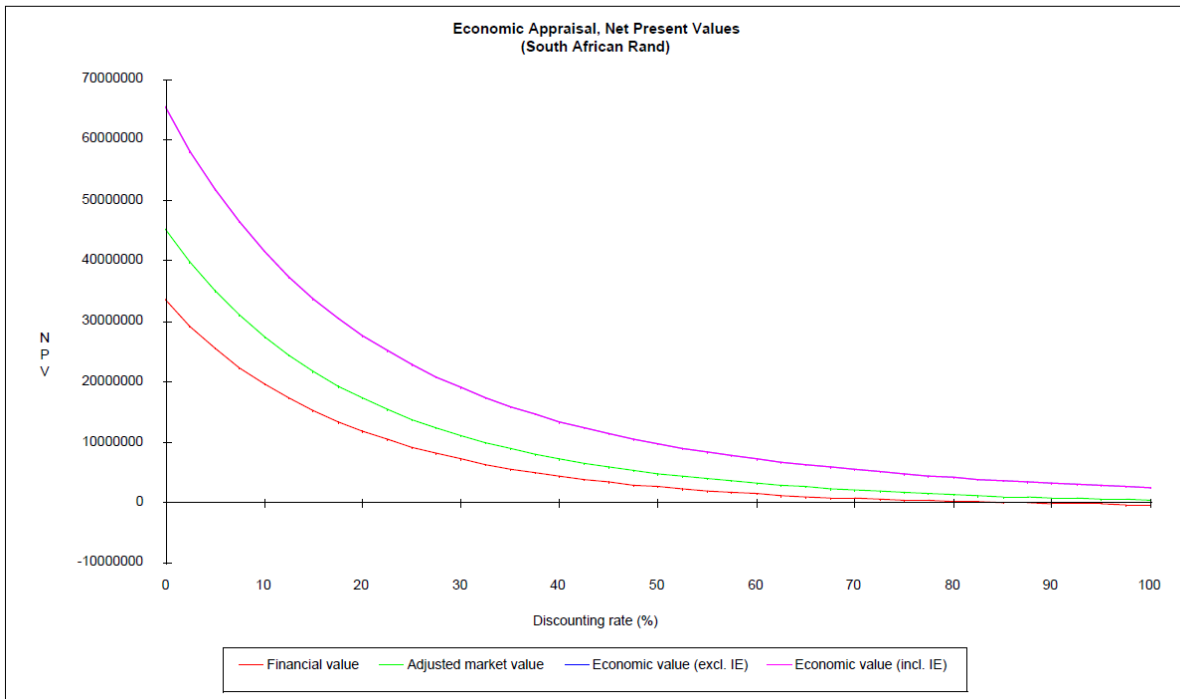
NET FOREIGN EXCHANGE EFFECTS	
South African Rand	
	Scrap 2/2014-1/2015
TOTAL FOREIGN EXCHANGE INFLOW	0.00
Equity share	0.00
Loans	0.00
Subsidies, grants	0.00
Export of products	0.00
Other income	0.00
TOTAL FOREIGN EXCHANGE OUTFLOW	0.00
Fixed investments	0.00
Material input	0.00
Debt service	0.00
Wages	0.00
Equity capital refund	0.00
Dividends transfer	0.00
Others	0.00
NET FOREIGN EXCHANGE FLOW	0.00
Indirect foreign exchange inflows	0.00
Indirect foreign exchange outflows	0.00
NET FOREIGN INDIRECT EFFECTS	0.00
NET FOREIGN EXCHANGE EFFECTS	0.00

EMPLOYMENT EFFECT							
South African Rand							
	Unskilled labour (UL)	Skilled labour (SL)	Total labour (TL)	Investment (I)	UL/I	SL/I	TL/I
Direct employment within project	0.00	0.00	0.00	24,875,804.78	0.00	0.00	0.00
Indirect employment	214.00	321.00	535.00	0.00	0.00	0.00	0.00
Total employment	214.00	321.00	535.00	24,875,804.78	0.00	0.00	0.00

EMPLOYMENT EFFECT			
South African Rand			
	I/Unskilled wages	I/Skilled wages	I/Total wages
Direct employment within project	0.00	19.60	19.60
Indirect employment	0.00	0.00	0.00
Total employment	11.18	5.40	5.40

ECONOMIC APPRAISAL							
South African Rand							
	Financial value	Adjustment factor	Adjusted market value	Foreign currency exposure (%)	Foreign exchange adjustment	Economic value (excl. IE)	Indirect effect (IE)
TOTAL CASH INFLOW	531,555,379.72	1.00	531,555,379.72	97.37	103,543,162.29	635,098,542.01	0.00
Inflow operation	517,591,584.49	1.00	517,591,584.49	100.00	103,543,162.29	621,134,746.77	0.00
Other income	13,963,795.24	1.00	13,963,795.24	0.00	0.00	13,963,795.24	0.00
Foreign loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL CASH OUTFLOW	513,483,367.68	0.99	506,154,885.27	89.02	90,142,287.98	596,297,173.25	0.00
Increase in fixed assets	2,355,325.63	1.00	2,355,325.63	78.17	368,329.97	2,723,655.60	0.00
Increase in net working capital	14,956,792.44	1.00	14,956,792.44	0.00	0.00	14,956,792.44	0.00
Operating costs	488,842,767.20	1.00	488,842,767.20	91.80	89,773,958.01	578,616,725.21	0.00
Marketing costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foreign debt services	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income (corporate) tax	7,328,482.42	0.00	0.00	0.00	0.00	0.00	0.00
Indirect effects	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NET CASH FLOW	18,072,012.04	1.41	25,400,494.46	263.73	13,400,874.30	38,801,368.76	0.00
INTERNAL RATE OF RETURN	88.50	---	122.29	---	---	317.83	---
BENEFIT-COST RATIO	1.04	---	1.05	---	---	1.07	---

ECONOMIC APPRAISAL	
South African Rand	
	Economic value (incl. IE)
TOTAL CASH INFLOW	635,098,542.01
Inflow operation	621,134,746.77
Other income	13,963,795.24
Foreign loans	0.00
Indirect effects	0.00
TOTAL CASH OUTFLOW	596,297,173.25
Increase in fixed assets	2,723,655.60
Increase in net working capital	14,956,792.44
Operating costs	578,616,725.21
Marketing costs	0.00
Foreign debt services	0.00
Income (corporate) tax	0.00
Indirect effects	0.00
NET CASH FLOW	38,801,368.76
INTERNAL RATE OF RETURN	317.83
BENEFIT-COST RATIO	1.07



Discounting rate (%)	Financial value	Adjusted market value	Economic value (excl. IE)	Economic value (incl. IE)
0.00 %	33,602,066.73	45,263,885.00	65,469,533.39	65,469,533.39
10.00 %	19,727,083.17	27,538,247.54	41,709,219.11	41,709,219.11
20.00 %	11,886,650.23	17,340,793.42	27,709,744.43	27,709,744.43
30.00 %	7,263,762.93	11,207,038.78	19,066,258.94	19,066,258.94
40.00 %	4,441,633.72	7,378,007.42	13,514,199.63	13,514,199.63
50.00 %	2,669,172.83	4,911,820.08	9,824,821.19	9,824,821.19
60.00 %	1,530,032.13	3,280,792.28	7,300,039.36	7,300,039.36
70.00 %	784,423.81	2,177,562.02	5,527,196.55	5,527,196.55
80.00 %	289,602.96	1,416,943.41	4,253,765.55	4,253,765.55
90.00 %	-41,890.96	884,006.43	3,320,428.36	3,320,428.36
100.00 %	-265,017.04	505,532.61	2,623,915.93	2,623,915.93