University of Cape Town

INVESTIGATING ALTERNATIVE FUNDING SOURCES FOR COMMUNITY EQUITY OWNERSHIP IN RENEWABLE ENERGY PROJECTS IN SOUTH AFRICA

A dissertation submitted to the Faculty of Engineering and the Built Environment in partial fulfilment for the award of the degree of

Master of Philosophy in Energy and Development Studies

By

Letsiwe Thulisile Sibongile Dlamini

Student Number: DLMTHU009

Energy Research Centre

University of Cape Town

Cape Town, South Africa

2015

Declaration

I, Letsiwe Thulisile Sibongile Dlamini, hereby declare that this thesis is my own work, both in concept and execution, except where stated otherwise. This thesis is being submitted to partially fulfil the requirements for the degree of Master of Philosophy in Energy Development Studies at the University of Cape Town. I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution.

Signature: _____

Date: 26 May 2015

Dedication

I dedicate this work to my precious grandmother, Mrs. Esther Lokwephuka Dlamini, without whom I would never know the meaning of true love.

Acknowledgements

Quite a number of individuals and organisations contributed to making this thesis and my studies successful and I am very grateful to each and every one of them.

Firstly, I would like to thank God for bringing me to this point. I honestly did not think it possible at so many intervals during this journey. Thank you, Dad. You are awesome!

My heartfelt appreciation also goes to my supervisor, Dr. Amos Madhlopa, who patiently guided me through the process of drafting this thesis. Your accessibility, amazing turn-around time, insightful comments and recommendations, and humble disposition; not only made this thesis a reality, but also touched and humbled me. Thank you very much, sir.

I also wish to thank my co-supervisor, Prof. Anton Eberhard, who opened the door to amazing opportunities. I would not be where I am without your help, sir. Thank you.

A big 'thank you' goes to the entire team at the Energy Research Centre for believing in me and for supporting me in various ways, including financially, through bursaries. To this end, the financial support that the Water Research Commission and Unitar provided for my studies warrants particular acclaim.

My immediate supervisor at work, Mr. Frisky Domingues, deserves special mention. I am yet to come across a more supportive manager. Thank you ever so much for your full-on support, encouragement and patience, Frisky. I could not have made it this far without you standing up for me the way that you did. My heart goes out to you for all that you have done to help me through this important milestone.

In addition, I would like to thank my wonderful work colleagues in the Economic Development Department and the rest of the organisation. Thank you all for cheering me on. You are the best!

My dear friends and classmates, Adélia and Julian, thank you for always being supportive and for giving me a helping hand, every time I needed one. You two are extra-ordinary. The relentless drive you both displayed inspired me to carry on, even during the toughest of times. It is because of you that I have a 'foot in the door' of this male-dominated energy field.

Lastly, I wish to thank all the friends and family members who allowed me to lean on them through this wonderful learning experience.

Table of Contents

List of Figures

List of Tables

Abbreviations and Acronyms

BBBEE	Broad-Based Black Economic Empowerment
BNDES	Brazilian Development Bank
CDAs	Community Development Agreements
CEO	Community Equity Ownership
CICs	Community Interest Companies
CO_2	Carbon Dioxide
CPA	Community Property Association
CSEP	Community Sustainable Energy Programme
CSI	Corporate Social Investment
CSP	Concentrated Solar Power
CSR	Corporate Social Responsibility
DBSA	Development Bank of Southern Africa
DFIs	Development Finance Institutions
DoE	Department of Energy
DRDLR	Department of Rural Development and Land Reform
DTI	Department of Trade and Industry
EBRD	European Bank for Reconstruction and Development
ED	Economic Development
ED	Enterprise Development
EIA	Environmental Impact Assessment
FDI	Foreign Direct Investment
GHG	Greenhouse Gas
HRCSA	Human Rights Commission of South Africa
IA	Implementation Agreement
IDC	Industrial Development Corporation
ILUAs	Indigenous Land Use Agreements
IPAP	Industrial Policy Action Plan
IPPs	Independent Power Producers

IPSs	Industrial and Provident Societies
IRP 2010	2010 Integrated Resource Plan
LCCC	Low Carbon Communities Challenge
LRADS	Land Redistribution for Agricultural Development Grant
MDBs	Multilateral Development Banks
MNCs	Multi-National Corporations
MW	Megawatt
NAFINSA	Mexican Development Bank
NDP	National Development Plan
NERSA	National Energy Regulator of South Africa
NGO	Non-Governmental Organizations
NGP	New Growth Path
NPV	Net Present Value
OCGT	Open Cycle Gas Turbine
OMP	Operations Measurement Period
PIC	Public Investment Corporation
PPA	Power Purchasing Agreement
PV	Photovoltaic
RCCF	Rural Carbon Challenge Fund
RECSP	Renewable Energy at Community-Scale Programme
REFIT	Renewable Energy Feed-In Tariff
REI4P	Renewable Energy Independent Power Producer Procurement Programme
SAMAF	South African Micro-Finance Apex Fund
SARi	South African Renewables Initiative
SED	Socio-Economic Development
SIOC	Sishen Iron Ore Company
SIPs	Strategic Integrated Projects
SLO	Social License to Operate
SPI4P	Small Projects Independent Power Producer Procurement Programme

SPV	Special Purpose Vehicle
TCA	Thematic Content Analysis
UK	United Kingdom
USA	United States of America

Abstract

The combined effect of a number of factors has forced the Government of South Africa to launch and seek to expand the renewable energy sector through the Renewable Energy Independent Power Producer Procurement Programme (REI4P). Such elements include environmental issues, especially climate change; the need to diversify energy sources in order for the country to be energy secure; and the developmental potential that investment in a new industry, in this instance the renewable energy industry, can bring in terms of job creation, economic growth and the exploitation of abundant natural resources. In addition to the REI4P, the Government has also been compelled to seek to expand energy supply in the country, in general, due to the energy crisis, which in turn, is closely associated with a population that is growing at a pace that is much faster than the rate at which energy can be readily supplied.

Community Equity Ownership (CEO) or local community ownership is a unique feature of the REI4P that has recently come under close scrutiny due to its requirement for project companies to offer a minimum of between 2.5% to 5% shares of their companies to local communities residing within 50km of their renewable energy plants, in an effort to contribute toward their socio-economic development; the challenges presented by community trusts; and the subsequent resistance towards the notion of local community ownership by REI4P project companies. It is the subject of this research because it is still a critical and integral component of the REI4P and challenges associated with its financing have, in the past, jeopardised the accomplishment of the very goals for which it was instituted.

The value of Social License to Operate (SLO) is that it can lay the foundation for positive relations to prevail between communities and Independent Power Producers (IPPs) in the pursuit of a viable renewable energy industry and increased energy supply in South Africa. To this end, the study demonstrates that whilst CEO is mandatory in the REI4P, it also constitutes SLO because if communities own shares in REI4P projects, they are more likely to cooperate with them. Thus, the CEO, Socio-Economic Development (SED) and Enterprise Development (ED) requirements of the REI4P essentially represent the SLO 'building blocks' for the Programme.

Development Finance Institutions (DFIs) have been at the forefront of funding local community ownership, although other financial institutions, including commercial banks

have started financing it as well, while requiring guarantees and security from communities, which can offer neither. The continued implementation of the REI4P, as well as the launch of the Baseload IPP Programme and the Medium Term Risk Mitigation Project, will ultimately increase the total number of IPP Programmes in the country and will likely intensify the demand for finances to fund CEO, should it be sustained. In view of this, where will the funding for this key aspect of the current and proposed IPP Programmes come from? This study sought to identify alternative funding options for CEO in order to support its continued implementation in both the REI4P and the proposed IPP Programmes.

An exploratory research design was pursued for the study in view of data limitations arising from the infancy of the renewable energy sector in South Africa. Moreover, a questionnaire survey was undertaken and a purposive sampling technique was used to interrogate a select group of financial institutions and REI4P Independent Power Producers (IPPs), with a view to determine what their experiences have been in relation to funding CEO, as well as to identify alternative funding options for it, going forward. In this regard, a sample size of 15 was taken out of a combined total of 72 financial institutions and IPPs. Thematic content analysis was subsequently performed to process the data.

The main risk associated with financing CEO that was identified by stakeholders has to do with a lack of security in lending to disadvantaged communities because they often have no collateral and can offer no guarantees that demonstrate their capacity to repay debts. Furthermore, the establishment of a Grant Scheme for funding CEO, on the one hand, and a Guarantee and Incentive Programme, on the other, wherein Government stands in as guarantor for communities as they borrow funds to facilitate CEO; were found to be potentially instrumental in widening the pool of funding for CEO. Increased vendor support and more ‘preferential’ loan terms and ‘softer’ loans from DFIs were also identified as critical in the endeavour to increase the funding sources for CEO. Although the use of the Government Pension Fund to warehouse shares on behalf of communities and utilising communal land as equity both hold some promise; they require further research. It is, therefore, concluded that there is potential for alternative funding options for community equity ownership in the REI4P. The study also found that, based on the experiences of survey respondents, there are inadequate sources of finance for CEO, in light of the increasing pressure on available financial opportunities. To this end, the delineation between the

potential for funding local community shareholding in REI4P projects and actual access to funding is fundamental.

Chapter 1: Introduction

1.1. General

This introductory chapter of the thesis highlights the rationale, background, research questions and scope of the study. To this end, the chapter commences by outlining the unique case of South Africa, within the framework of the REI4P and the linkage between community equity shareholding in REI4P Project Companies and Broad-Based Black Economic Empowerment (BBBEE). Lastly, the chapter ends with a brief structure of how subsequent chapters are sequentially arranged and reported on, while indicating the subject matter, which each chapter seeks to address.

1.2. Rationale

The Department of Energy (DoE) launched the Renewable Energy Independent Power Producer Procurement Programme (REI4P) in August 2011 after the Renewable Energy Feed-In Tariffs (REFIT) Programme, which was initiated by the National Energy Regulator of South Africa (NERSA), failed to take off. In order to facilitate constant and consistent supply of electricity in South Africa, approximately five consecutive bidding or tendering windows were envisaged at the inception of the REI4P, from the following renewable energy technologies *viz.* onshore wind, Concentrated Solar Power (CSP), solar photovoltaic, biomass, biogas, land fill gas and small hydro (≤40 MW) (DoE, 2014a).

The REI4P requires bidders to compete on the basis of a price that will be paid by the Buyer (Eskom, in this instance) to the Seller (a private power producer), after a Power Purchasing Agreement (PPA) has been a concluded; as well as social and economic criteria. The price determines the success of bids by 70%, whilst the socio-economic development ratings account for 30% (DoE, 2014a). The first determination of renewable energy procurement made by the Minister of Energy was aimed at acquiring 3,725 MW of renewable energy from the private sector renewable energy power producers, commonly referred to as Independent Power Producers (IPPs) or Sellers, by 2016 (DoE, 2014a; DoE, 2014c; Eberhard, 2013). Table 1.1 below outlines the generation capacity allotted to each technology during the first Ministerial Determination.

Table 1. 1: Generation Capacity (MW) per Technology allocated during the First Ministerial Determination
Source: DoE (2014a: 32).

Technology	**Capacity (MW)**
Onshore wind	1850
Concentrated solar power	200
Solar photovoltaic	1450
Biomass	12.5
Biogas	12.5
Landfill gas	25
Small hydro (≤40 MW)	75
Small projects utilising any of onshore wind, solar photovoltaic, biomass, biogas, landfill gas and small hydro technologies, which have a maximum capacity of 5 MW	100
TOTAL	**3,725**

Subsequently, a second Ministerial determination, which was made in December 2012, extended the REI4P by an additional 3,200 MW of generation capacity to be installed by 2020 (DoE, 2014a; DoE, 2014c; GWEC, 2012). Table 1.2 illustrates the generation capacity allocation per technology for this second determination.

Table 1. 2: Generation Capacity (MW) per Technology allocated during the Second Ministerial Determination
Source: DoE (2014a: 33).

Technology	**Capacity (MW)**
Onshore wind	1470
Concentrated solar power	400
Solar photovoltaic	1075
Small hydro (≤40 MW)	60
Biomass	47.5
Biogas	47.5
Small projects utilising any of onshore wind, solar photovoltaic, biomass, biogas, landfill gas and small hydro technologies, which have a maximum capacity of 5 MW	100
TOTAL	**3,200**

A further 308 MW was availed for Bid Window 3, where CSP was allocated an additional 200 MW, biomass received an extra 47,5 MW and small hydro was allotted 60 MW (DoE, 2014c). Moreover, a special bidding round for CSP closed in March 2014 and is often referred to as Bid Window 3.5.

Due to the effect of the REI4P on the rand funding market, the DoE has taken a deliberate decision to cap the generation capacity allocated per bidding round (DoE, 2014a) so that it is carefully selected per bid window to ensure that, on the whole, the total capacity yielded as a result of the Programme is consistent with the targets of the 2010 Integrated Resource Plan (IRP 2010) (DoE, 2014a).

Currently, four competitive bidding rounds have been concluded, with the last of these closing on 18 August 2014. The generation capacity allocated for Bid Window 4 is reflected in Table 1.3 below.

Table 1. 3: Generation Capacity (MW) allocated for the Fourth Bid Window of REI4P
Source: DoE (2014a: 34).

Technology	**Capacity (MW)**
Onshore wind	590
Solar photovoltaic	400
Biomass	40
Landfill gas	15
Small hydro (≤40 MW)	60
TOTAL	**1,105**

Additionally, a Small Projects Independent Power Producer Procurement Programme (SPI4P) has been launched by the DoE to cater for projects between 1 MW and 5 MW, which are specifically aimed at facilitating the participation of small and medium indigenous IPPs in the renewable energy space as the sector launches in South Africa. A call for tenders for the SPI4P was lodged on 21 August 2013 (DoE, 2014a).

Table 1.4 below summarizes the generation capacity that has been awarded to bidders from Bid Windows 1 through to 3. Two bidders were awarded contracts in Bid Windows 3.5 that focused only on CSP. The outcomes for Bid Window 4 and the first round of the SPI4P are still awaited.

Table 1. 4: Generation Capacity (MW) awarded by the DoE for REI4P Bid Windows 1 to 3 Source: DoE (cited by Energy Blog, 2014).

Technology	MW in Window 1	MW in Window 2	MW in Window 3
Solar PV	632	417	435
Onshore Wind	634	563	787
CSP	150	50	200
Small Hydro (≤40 MW)	0	14	0
Landfill Gas	0	0	18
Biomass	0	0	16
Biogas	0	0	0
Total	***1,416***	***1,044***	***1,456***

Table 1.4 above illustrates that the total generation capacity allocated from Bid Window 1 to 3 is 3,916MW, which already exceeds the total capacity allocated during the first Ministerial Determination. In total, 28, 19 and 17 IPPs were awarded contracts in Bid Windows 1, 2 and 3, respectively (Eberhard *et al.*, 2014). With 66 contracts (including the two awarded in Bid Window 3.5) already awarded and this number set to increase with the announcement of winning bids for Bid Window 4 and the SPI4P, this clearly demonstrates that with each bidding window or round, the total number of IPPs who are awarded contracts increases and thus, the demand for finance to fund CEO also increases.

Furthermore, the IRP 2010 incorporated impressive targets for renewable energy, wherein wind power and solar energy were collectively allocated 18,800 MW out of a total of 90,000 MW by 2030 (Eberhard, 2013). This, coupled with the imminent launch of the Baseload IPP Programme, the Medium Term Risk Mitigation Project, as well as the eighteen (18) Strategic Integrated Projects (SIPs) that have been established by Government in order to promote economic development and improve service delivery in the country (PICC, 2013); the demand for financing CEO promises to expand even further.

The move to increase the role of renewable energy technologies in the energy mix of South Africa was prompted by a number of key factors. Firstly, the country experienced an unprecedented electricity crisis, which started in the Western Cape in 2006. The seminal moment of the crisis occurred between January and May 2008 when power outages, lasting

many hours, became a regular feature (CDE, 2008; Krupa and Burch, 2011). This, in a country where electricity was previously not only abundant but also cheap, came as a shock to many consumers. One of the most notable examples of the effect of the crisis was that the productive sectors, particularly mining, experienced a decline in output (CDE, 2008).

An additional factor that has led to the promotion of renewable energy generation in South Africa is the requirement to limit the impact of climate change and fulfill national obligations associated with this endeavor. In this regard, it is essential to indicate that South Africa is ranked the twelfth highest emitter of carbon dioxide (CO_2) in the world (NT, 2010). Total Greenhouse Gas (GHG) emissions in the country were approximately 547 million tonnes in 2010 (NT, 2013). Emissions that emanated from the energy sector as a result of electricity generation, petroleum refining and transport were over 80% of the total in the Year 2000 (NT, 2013). In light of this, the country is compelled to implement appropriate corrective measures to lower GHG emissions. To this end, in December 2009, President Jacob Zuma pledged that South Africa would effect mitigation actions that would lead to 34% and 42% emissions reduction below its business-as-usual scenario by 2020 and 2025, respectively, subject to developed countries delivering on their commitment to avail financial, capacity-building, technology development and technology transfer assistance to developing countries (DEA, 2011). Renewable energy technologies present a viable and critical tool for fulfilling this commitment.

Over and above all these bidding rounds and specific outcomes within the framework of the REI4P, the DoE aims to launch additional IPP Programmes through the Baseload IPP Programme and the Medium Term Risk Mitigation Project, which incorporate and make use of energy carriers such as coal, hydro, natural gas, as well as industrial co-generation. Other IPP programmes include the Avon and Didisa Peaker projects, which are Open Cycle Gas Turbine (OCGT) facilities in the Kwa-Zulu Natal and Eastern Cape provinces, respectively (NERSA, 2011); while SPI4P, rooftop solar photovoltaic (PV) and solar water heating programmes are also in the pipeline. What this means is that energy generation will improve as a result of the renewable energy contribution to the energy mix and the increased participation of the private sector in the electricity generation space of the country.

In view of the fact that the DoE is determined to optimise the socio-economic development opportunity that these IPP Programmes present, the community equity ownership that is built into the REI4P may replicate and cascade down to the rest of the IPP Programmes. This is a

crucial socio-economic development aspect of the REI4P, which Government consciously and deliberately introduced in order to empower and benefit communities located within the vicinity of the renewable energy project sites, whilst contributing toward the accomplishment of the broad social and economic goals of the State, as expressed in such documents as the National Development Plan (NDP), the New Growth Path (NGP), the Industrial Policy Action Plan (IPAP) and the Strategy for Broad-Based Black Economic Empowerment (BBBEE), to mention just a few.

In the same way, Sections 2 (c) and (f) of the Broad-Based Black Economic Empowerment Act 53 of 2003 state that one of the aims of the Act is to expedite broad based black economic empowerment by catalysing the degree to which rural and local communities and other target groups acquire ownership of and run business ventures in South Africa (DTI, 2003). In light of all this, bidders are obliged to allocate between 2.5% and 5% of the total shareholding in their project companies to the local communities within which their renewable energy plants are located (DoE, 2014d). To this end, there are usually two common approaches through which local community shareholding is funded, namely, (a) through loans that often derive from Development Finance Institutions (DFIs) such as the Industrial Development Corporation (IDC) and the Development Bank of South Africa (DBSA), as well as other lenders; and/or (b) through free carry or shareholder loans or provision of security by other shareholders in the project company (DoE, 2014b).

One of the consequences of the requirement to apportion at least 2.5% to 5% shareholding in REI4P project companies to local communities is the increased demand for funding investment in the South African energy sector, in general. The outcome of this increased demand for funding, coupled with the high cost of finance due to the high 'riskiness' that the South African financial sector associates with the 'young and budding' renewable energy industry led to a situation where:

> *"The nature of project finance between the RE IPPPP's winning projects in rounds one and two announced in November 2011 and May 2012 respectively, and round three announced in November 2013 witnessed a dramatic yet unexpected shift away from South Africa's four main national banks as the majority suppliers of debt finance. While the majority of projects in round one were financed almost exclusively by local banks, by round three over a third of projects were corporate financed, which sees loans lent against a company's balance sheet and does not therefore require debt finance from the banks."* (Baker and Wlokas 2014: 26)

Why did project developers shift to corporate finance in Round 3 of the REI4P? Baker and Wlokas (2014) argue that the utility companies that provided corporate finance in the Third Round were not as risk averse as the South African banks are and therefore, offered finance on less cumbersome terms than those proffered by South African banks. In addition, the utilities were more amenable to lower returns; due to their solid experience in the renewable energy sector, their ability to raise capital and the probability that they can more effectively negotiate more preferential terms with equipment manufacturers.

Indeed, the significant role that corporate finance played in Round 3 of the REI4P, not only saw a substantial reduction in price (Baker and Wlokas, 2014), it may have very well 'saved the day' and left some room for the financing of local community shareholding in the same and subsequent rounds of the Programme. In other words, had project developers continued to rely primarily on project finance to fund the development of REI4P projects even in Round 3, just as they had in the previous two rounds, funding for REI4P project development in subsequent rounds, let alone local community shareholding in REI4P project companies, would have been even more severely constrained.

While corporate finance offers an alternative funding avenue for project development, in general, its danger is that it:

> *"...triggers fewer economic development opportunities for South Africa and undermines the chances of local players to break into the renewables market of South Africa."* (Haggett *et al.* 2014: 84)

The point of departure for this research project is that the current funding sources are insufficient to cater for the increased demand for local community equity finance to fulfil the requirements of the BBBEEE Act of 2003, the REI4P, as well as the additional IPP Programmes that are in the pipeline. Therefore, the study seeks to investigate alternative financing sources and mechanisms for local community equity ownership, particularly within the framework of the REI4P, with a view to consolidate the Social License to Operate (SLO) that communities may possibly extend to IPPs in order to facilitate the successful implementation of REI4P projects in remote locations throughout the country. The outcomes of this research will provide a basis through which one can assess the extent to which the efforts of Government to facilitate community ownership of existing and planned business enterprises have been successful thus far.

1.3. Why Communities?

As already highlighted above, the study seeks to broaden the array and scope of available funding options to support local community equity participation in the REI4P. In doing so, the starting point is to investigate the considerations that were behind the involvement of local communities in the REI4P. In this way, the thesis seeks to, as a starting point, explore and address the following questions: *Why communities? Why did Government decide that it would be crucial for local communities, within 50km of renewable energy plants established through the REI4P, to become shareholders in the project companies that participate in and benefit from the Programme?*

Having firmly taken the decision to implement the REI4P, the DoE determined that IPPs were uniquely positioned to play a critical role in and contribute towards the goal of attaining socio-economic development and alleviating rural poverty in the country (DoE, 2011). Clearly, the Government considers the tenure of the REI4P as the ideal occasion for optimising the socio-economic potential and mileage inherent in the vast and rich renewable energy resources that the country has to offer. Since the areas in which renewable energy plants are located are scattered in various, usually non-urban parts of the country, the REI4P presents a very rare opportunity to situate projects with a commercial emphasis and economic dimension in rural areas, which are often ill-favoured by investment prospects (Eberhard *et al.,* 2014).

The view that IPPs are strategically placed to promote socio-economic development was fuelled by certain intrinsic elements that both they and their renewable energy projects possess. These include the following:

a) The capacity to establish new power plants and to introduce new renewable energy technologies, which can benefit communities within the specific areas where they reside;
b) Employment generation, particularly during the construction phase of projects;
c) Opportunity for Government to arrange for the delivery of REI4P in such a way as to optimise the economic development potential and prospects of the Programme;
d) To seize and make the most of the occasion offered by REI4P for the formation of joint ventures between up-and-coming black business and skilled, knowledgeable and experienced companies;

e) Consistent and reliable income, which emanates from the PPA and accrues to project companies;
f) Since the sub-contracting and procurement structures of IPPs may require an extensive small, medium and large enterprise resource, the REI4P offers a good opportunity for meeting the goals of BBBEE; and
g) The long duration of projects constitutes a fortuitous occasion within which black business, management and skills can be nurtured.

(DoE, 2011).

The DoE then set out to identify the specific developmental goals the REI4P ought to address by considering the prevalent national policy and legislative framework that obtained at the time (DoE, 2011; Eberhard *et al,.* 2014). This entailed taking cognisance of the following legal and policy instruments:

a) Constitution of the Republic of South Africa, 1996;
b) Preferential Procurement Policy Framework Act, 2001;
c) Broad-based Black Economic Empowerment Act, 2003 ("BBBEE Act") and the BBBEE Codes of Good Practice ("BBBEE Codes") published pursuant to the BBBEE Act, 2007;
d) Department of Energy ("Department") Procurement Policy;
e) White Paper on Renewable Energy, 2003 ("White Paper");
f) South Africa Renewable Energy Feed-in Tariff, Regulatory Guidelines, 26 March 2009;
g) New Growth Path published by the Department of Economic Development ("NGP");
h) Accelerated Shared Growth Initiative of South Africa ("ASGI-SA");
i) National Industrial Policy Framework ("NIPF");
j) Industrial Policy Action Plan 2010/11 - 2012/13 ("IPAP 2") and IPAP 2011/12 to 2013/14; and
k) Eskom's Competitive Supplier Development Programme, 2008 – 2013

(DoE, 2011).

Taking cognisance of these different regulatory tools, the Department then identified the following critical socio-economic outcomes that should emanate from the REI4P, *viz.* an improvement in employment opportunities in the country, particularly for the previously disadvantaged in rural communities; increased local manufacturing through improved local content; ownership of the project companies, EPC contractors and operations contractors by black people; occupancy of senior or top management positions in the project companies,

EPC contractors and operations contractors by black people; improved procurement from women-owned vendors and black-owned businesses; development of entrepreneurial capacity of emerging small, medium and large businesses in local communities; promoting rural development and the participation of local communities in the economy; training and skills development; and a notable improvement in the socio-economic conditions of local communities as a direct result of the IPP projects (DoE, 2011).

One of the results of the requirement to stimulate rural development and promote the participation of local communities in the mainstream economy and the REI4P in particular, was the compulsion for local communities to own at least 2.5% to 5% shares in the project companies that invest in their areas (DoE, 2014d). Another cause for the centrality of communities within the economic development component of the REI4P emanates from the imperatives of the Broad-Based Black Economic Empowerment (BBBEE) Act 53 of 2003 to transform the economic landscape of the country by setting in motion conditions that call for more black people and disadvantaged communities to increasingly take the 'driver's seat' in running the business sector and the economy of the country. It is within this framework that the Government seeks to address the demand and outcry for 'economic liberation' coming from the masses.

1.4. Broad-Based Black Economic Empowerment (BBBEE) and Community Equity Participation in the REI4P

Having explored the question of why communities should feature in an energy infrastructural programme such as the REI4P, the next step is to briefly investigate the pertinence of *community equity ownership* in a renewable energy context as envisaged by the South African Government in the REI4P.

Among the key objectives of BBBEE Act 53 of 2003, Section 2 b, c, e and f list the following, respectively:

- *"achieving a substantial change in the racial composition of ownership and management structures and in the skilled occupations of existing and new enterprises;*
- *increasing the extent to which communities, workers, cooperatives and other collective enterprises own and manage existing and new enterprises and increasing their access to economic activities, infrastructure and skills training;*

- *promoting investment programmes that lead to broad-based and meaningful participation in the economy by black people in order to achieve sustainable development and general prosperity;*
- *empowering rural and local communities by enabling access to economic activities, land, infrastructure, ownership and skills".* (DTI 2003: 4-6; DoE 2011: 9-10).

These provisions of the Act appear to suggest that one of the main goals of introducing broad-based black economic empowerment in South Africa is to present a model wherein the ownership of small, medium and large business and economic resources reflects the demographics of the country and that such ownership should include poor, rural communities in which large business ventures are located and should be used to lift them out of poverty. Hence, the opportunities for black people, particularly those in disadvantaged communities, to procure and manage existing and emerging business ventures would consistently be improved (DTI, 2003). This, it appears, is one of the primary motivations for the inclusion of a local community equity ownership imperative in the REI4P, considering that the Act was one of the key legal instruments consulted in the design of the Programme.

From the above, it is clear that the Government sought to leverage *sustainable socio-economic development* through the REI4P, in general, and to promote rural development and the increased participation of local communities in the ownership and management of business enterprises, through CEO, in particular. The development that Government sought to introduce through this Programme is expected to be sustainable in two ways. Firstly, the proceeds emanating from community equity participation are expected to subsist throughout the 20 year tenure of the IPP projects and preferably, even beyond. Secondly, the notion of sustainability, as viewed by Government, is indeed, in concert with that promulgated in development literature, which pertains to continuous economic growth, in tandem with environmental protection and the advancement of social equity, through time (Rondinelli and Berry, 2000). Certainly, the Government views the REI4P as a critical tool that can be utilised to attain sustainability in socio-economic development in both respects, particularly in view of the environmentally friendly connotations inherent in renewable energy; the increase in social welfare that dividend flows from equity participation promises; and the resultant improvement in the economic status of the previously disadvantaged communities earmarked to benefit from the Programme.

Another more indirect explanation for the resolve to implement CEO through the REI4P could be the social license, acceptability, legitimacy and cooperation from the social institutions and communities that it invariably confers on IPPs. This could, surely, be both a predetermined goal and inadvertent outcome of the Programme. The theoretical framework on which this thesis is grounded centres on this justification for local community ownership of renewable energy projects in the South African context. Indeed, the requirement for community equity participation is peculiar to a large infrastructural renewable energy programme and thus makes the REI4P a uniquely South African model; quite different from other renewable energy programmes implemented in various parts of the world.

With the distinctiveness and aim of CEO within the framework of the REI4P firmly established, how will it be sustained over time by ensuring that the necessary financial resources are consistently available to capacitate local communities to invest in project companies as shareholders? This is the main issue that the study seeks to resolve.

1.5. Research Questions

a) Main Research Question

The increased energy generation in the country, due to the plethora of IPP Programmes, has led to a significant increase in the demand for finance for equity investment in project companies within the energy sector. In turn, this begs the question of whether or not the current sources of funding are able to absorb the increased demand. The contention of this research is that they are not. Not enough private sector financial institutions are offering finance for supporting local community equity investment in project companies operating under the REI4P. In view of that, what alternative financing sources and mechanisms can be identified to fund local community shareholding and investment in renewable energy projects within the framework of the REI4P?

b) Subsidiary Questions

i) What are some of the perceived risks of funding community equity shareholding in the IPP Projects?

ii) What can be done to widen the pool of available funding sources?

1.6. Scope

The study investigates funding local community equity shareholding in renewable energy project companies within the framework of the REI4P i.e. how it has occurred thus far; what are some of the risks associated with it; and what can be done to increase available funding going forward. The research limits itself to the experience of the REI4P and does not consider other, past IPP Programmes in South Africa, mainly because the success of the REI4P necessitates that it be utilised as a prototype for subsequent IPP Programmes that are planned for roll-out in the country. In addition, the study is confined to a survey of financial institutions and IPPs because these are the two main parties that directly engage and grapple with the issue of financing community investment in project companies operating in the REI4P, in the first instance. The study deliberately did not incorporate Government primarily because it is often not directly involved in the actual financial transactions that pertain to borrowing and/or accessing funds for local community equity investment in the REI4P. Additionally, the author did not include the community perspective in the study due to a lack of both time and financial resources required for conducting such a broad-based investigation.

1.7. Organisation of Thesis

The next chapter of the thesis presents the review of literature, with a particular focus on the theoretical foundations of the study, *viz.* Social License to Operate (SLO). Subsequently, the third chapter expounds on the methodology used in the study and the process of developing enquiry tools, particularly the questionnaire. The fourth chapter presents and discusses the findings of the study and finally, the fifth chapter addresses the conclusions and recommendations of the research.

Chapter 2: Literature Review

2.1. Introduction

This second chapter of the thesis reviews previous research on the theoretical foundations of the study, namely, Social License to Operate (SLO). In addition, it investigates developed countries' experiences with regards to Community Equity Ownership (CEO) in energy projects and related financing. Lessons for South Africa are subsequently highlighted for possible policy consideration. To end the chapter, the most common types of funding renewable energy projects are considered in tandem with their policy implications.

2.2. Theoretical Foundations of the Study: Social License to Operate

a) Defining the Concept of Social License to Operate

Following a gunshot wound inflicted by Nigerian troops when she objected to forceful removal from her village to make way for a Shell pipeline in 1993, Karalolo Kogbara lost an arm (Pilkington, 2009). This is one of the consequences of the presence of Shell, a Multinational Corporation (MNC), in Ogoniland, Nigeria (Muchlinski, 2001). In another incident, seventy-three (73) Colombian farmers are seeking US$29 million in reparations from British Petroleum (BP) following allegations that the company irresponsibly handled the construction of one of its pipelines in that country, which could possibly result in long-term ecological degradation (Germanos, 2014). In yet another episode, French company, Total S.A. ("Total") and U.S. based Unocal Corp. ("Unocal") faced highly publicized litigation concerning human rights violations in Myanmar, where they were accused of employing forced labour offered by the Burmese Government to construct a pipeline (Kaeb, 2008).

It is incidents such as these that cast a dim view on the presence and operations of MNCs in developing countries and often impair and mar their reputation. As Bartlett *et al.* (2007: 646) aptly point out:

> *"…in the poorest nations on earth, the reputation of large Western MNEs was shaky at best, and in some quarters it was in complete tatters".*

What is even more unsettling is the complicity between State and business in the discharge of some of the human rights infractions highlighted above. One of the key outcomes of such

experiences is that they have increased the spotlight and heightened the sensitivity, awareness, monitoring and whistle-blowing roles of Non-Governmental Organizations (NGOs) and other social interest and pressure groups on the activities of MNCs.

In order to salvage their honour and overturn such negative publicity and track records, MNCs have since adopted an approach and strategy through which they seek to implement projects that contribute towards the socio-economic development of the local communities within which they are located, with a view to secure the social license and legitimacy required to function in these locations (Gifford and Kestler, 2008). This transition from the manipulative to the conciliatory (Bartlett *et al.,* 2007) is the basic tenet of the concept of Social Licence to Operate (SLO).

Social License to Operate (SLO) is a term that was first introduced in the late 1990s by Canadian mining executive, Jim Cooney (Prno, 2013). It denotes the:

> "…*ongoing approval and acceptance of society [for a business operation] to conduct its activities [in a specific location].*"
> (Joyce and Thomson, 2000 and Thomson and Boutilier, 2011 as cited by Prno and Slocombe 2012: 346).

Critical to note in this definition are the *ongoing, continuous* characteristics of SLO and its emphasis on the importance that companies now place on the *acceptance* of their activities by the communities within which they operate. A key element that Moffat and Zhang (2014) add to this definition is that this evolving, extant acceptance and approval of the business enterprise by the community have the potential to affect its profitability.

Owen and Kemp (2013: 29) loosely characterise SLO as:

> *"…efforts at reaching out to stakeholders—global to local—and a broad attempt to articulate the many ways in which companies are responding to societal and community expectations [and pressures]".*

The import of this definition is that the interested parties encompassed by SLO are not necessarily confined to the specific location of the business enterprise, but may include national and even international stakeholders. Indeed, Lacey and Lamont (as cited by Hall *et al.* 2014: 2) argue:

> *"SLO is no longer limited to a focus on the localised nature of company-community interactions. Instead, these interactions are increasingly being examined within regional and national contexts in order to determine not only whether single operations hold a social licence with their community, but also whether entire industries have earned this social licence from the broader public."*

Thus, it appears that MNCs have become subject to greater scrutiny and require more legitimacy to operate within their specific locations, as the pool of stakeholders widens beyond the local level to include regional, national and in some instances, even international parties, interested in their conduct. In this way, the concept of 'community' has broadened to include the collective endorsement of all those who have the potential to affect the revenue-generating capacity of a business entity (Hall *et al.,* 2014).

Social License to Operate (SLO) is foundational to this research project primarily due to its sustainable development origins, which explain why a renewable energy enterprise such as a REI4P project company would consider and adopt rural community ownership and development dimensions. Of particular importance is that SLO is the bridge between the sustainable development origins of community ownership and development principles within the REI4P as envisaged by Government, on the one hand, and the approval and acceptance by local communities of business operations in their neighbourhood as a prerequisite for successful rural development endeavours, on the other. This concept neatly combines these two critical ambitions and cements them together, hence, its centrality in this paper.

b) Prerequisites and Characteristics of Social License to Operate

The increasingly popular view, supported by several authors (Prno and Slocombe, 2012; Owen and Kemp, 2013; Moffat and Zhang, 2014 and Prno, 2013), in sustainable development literature is that local communities are no longer satisfied with being complacent and turning a blind eye to the exploitative and often harsh manner with which business enterprises, usually mining operations, treat the natural and human resources they source in the specific locations in which they do business. Communities, including interest and pressure groups therein, are speedily assuming a critical governance role within which they are calling for increased beneficiation, sustainable and environmentally-friendly use of resources and a more influential role in decision-making (Prno and Slocombe, 2012).

In instances where business enterprises have ignored and neglected the concerns of civil society and local communities, they have had to contend with shutdowns, slowdowns, strikes,

blockades, refusal or withdrawals of government licenses, focused media attention, shareholder campaigns and Government lobbying, which have firmly established the strength of civil society action in many countries, particularly in the developed world. Such consequences impose high yet avoidable costs to a company and increase the social risks to which it is exposed (Prno and Slocombe, 2012). Thus, SLO represents:

> *"…a pragmatic calculation of what is required to minimise business risk and win the degree of community support required to avoid delay or disruption to company operations."* (Humphreys, 2000; Hamann, 2007; Ali and O'Faircheallaigh, 2007 as cited by Owen and Kemp 2013: 31).

The extent of community support for a project can vary from complete disengagement to fully associating with it. This range of community support has four phases namely; withdrawal, acceptance, approval, and identifying with the project psychologically (Thomson and Boutilier as cited by Prno and Slocombe, 2012). The fact that SLO is implicit, inferred and unstructured in nature presents the challenge of ambiguity and an absence of parameters within which to substantiate its existence and the necessary consent and approval it represents. In other words, since it is unwritten and supposedly 'issued' by an unlicensed authority and is therefore informal, it renders business enterprises uncertain of where they stand with the community at any given moment, which is, naturally, quite unsettling. Consequently, several Community Development Agreements (CDAs) or Indigenous Land Use Agreements (ILUAs) have been concluded in the mining sector in order to safeguard the patronage of the community (Owen and Kemp, 2013). Other criteria for measuring SLO manifest in the consequences of its absence, ranging from consumer boycotts, which signal a high absence of SLO, to no project delays, indicating a low or no absence of SLO (Owen and Kemp, 2013).

Undoubtedly, community involvement is critical for establishing positive relations and improving social capital between business and communities. It distinctively buttresses public and private interests in the growth of resource development industries and promotes collaboration of their delivery at the local level in order that both business and communities optimally benefit from their establishment. Indeed, non-involvement of communities may very well lead to the withdrawal of SLO, which, in turn, may ultimately result in the retraction of legal or official licenses to operate (Hall *et al.,* 2014).

Prno and Slocombe (2012: 347) appear to concur with this view and underscore the value and importance of communicating and sharing information with the community as follows:

> *"…a number of authors have made recommendations for obtaining a SLO with local communities, which include the need for early, ongoing communication; transparent disclosure of information; development of conflict resolution mechanisms; and culturally appropriate decision-making (Business for Social Responsibility, 2003; Social License Task Group, 2009; Goldstuck and Hughes, 2010). Nelsen and Scoble (2006), however, used mining industry surveys to identify success factors for earning a social license. These included maintaining a positive corporate reputation; understanding local culture, language and history; educating local stakeholders about the project; and ensuring open communication among all stakeholders."*

Not only are the authors highlighting the significance of communicating with the community in maintaining a 'healthy' SLO, they also indicate that developing conflict resolution mechanisms; having an understanding of the local culture, history and language; making decisions in a culturally sensitive way and orienting the local community on the project; are also critical prerequisites for a strong, positive SLO.

SLO is essentially centred on the perceptions that a local community holds about business enterprises and their activities within their communities and how those activities affect the economy, livelihoods, culture and environment of the community. This means that the way a community views a business operation determines the degree to which it will allow or impede its access to land, water, human, financial and other resources for the conduct of business (Owen and Kemp, 2013). Herein lies the essence and value of SLO.

Since it is based on perceptions, it is, undoubtedly, a fluid, non-static, unassured form of endorsement and consent, which may be gained or lost at any particular moment, unlike legal or official licenses, which remain unchanged for the most part (Hall *et al.,* 2014). Whilst legal licences to operate are dispensed by Government entities, a social licence is awarded by a community and is worked for and earned in much the same way as trust is in a relationship (Lacey *et al.* (2012) as cited by Hall *et al.,* 2014). This means that even though a company could have obtained legal license to operate in a certain area, it may not have SLO and would have to still acquire it in order to have smooth relations with the community within which it subsists.

Furthermore, Prno and Slocombe (2013) find that whilst legal licenses are often once-off, non-voluntary requirements; SLO is an on-going, voluntary endeavour, which is necessary

throughout project life, with the main objective of establishing enduring, good relations between communities and companies. The investigation of the nature, form and preconditions of positive SLO compels a comparison between itself and the procurement of legally required licenses and the fulfilment of other mandatory requirements such as environmental and social impact assessment of resource development projects; as illustrated above. This analogy calls attention to the issue of the power dynamic between the two and begs the question of which is greater and of more importance between them. What is clear is that conflict between community and business presents social and environmental risks that are immensely costly, particularly for business, which, in turn, necessitates SLO (Franks *et al.,* 2014).

c) Main Constructs and Conceptual Model of Social License to Operate

Thomson and Boutilier (as cited by Prno and Slocombe, 2013) posit that there are three main 'building blocks' of the notion of Social License to Operate (SLO). These are legitimacy, credibility and trust. Of importance is that these conceptual constructs lie in a continuum that is cumulative, leading from one through to the other. In other words, legitimacy is the foundational concept where once it is secured and firmly established in the relationship between business operation and community, it then leads to credibility. If nothing happens to jeopardise the relationship between community and business operation, credibility ultimately culminates in a relationship based on trust between the two parties, which in turn cultivates high levels of SLO.

Simply put, it is essential for a company to be considered legitimate, as a first step, in its endeavour to access the SLO of a community, which has the capacity to impact its operations and hence, its profitability. Tyler (as cited by Valkeapää and Karppinen, 2013: 53) defines legitimacy as:

> *"…the belief that authorities, institutions, and social arrangements are appropriate, proper, and just."*

Legitimacy is that unique quality that drives individuals to submit willingly and of their own volition to decisions, rules, and social arrangements made by others (Tyler cited by Valkeapää and Karppinen, 2013). Thus, legitimacy is the foundational and first 'building block' of the concept of SLO. Once it has been obtained, it then leads to credibility, whilst raising the SLO afforded to a business operation, at the same time. Ultimately, sufficient levels of credibility give rise to trust and higher amounts of SLO. Essentially, the transition

from legitimacy through to the establishment of full trust relies on forging a social contract and developing social capital via a delicate balancing act through which the needs of both business and community are met (Thomson and Boutilier as cited by Prno and Slocombe, 2013). This basic model of SLO is depicted in Figure 2.1 below.

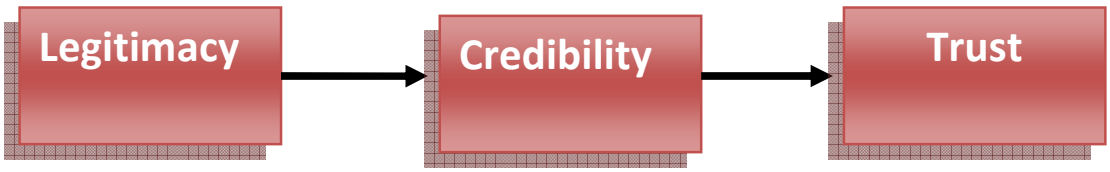

Figure 2. 1 : Basic Conceptual Model of Social License to Operate
Adapted from Thomson and Boutilier (as cited by Prno and Slocombe 2013: 347).

Parallel to the above, Thomson and Boutilier (2011) and Thomson and Boutilier (2012) (as cited by Prno and Slocombe, 2013) argue that there are four levels of SLO and these are withdrawal, acceptance, approval, and fully identifying with the project psychologically. They further assert that the amount of SLO that a company attains is inversely related to the level of socio-political risk it is exposed to. This means that a low SLO reflects that a company is exposed to high socio-political risk, where it is likely to experience the lowest level of SLO, which is withdrawal. A company is said to experience withdrawal when it is at risk of losing access to crucial resources such as land; finance; raw materials and natural resources; labour; public infrastructure; markets; and official licenses to operate (Thomson and Boutilier, 2011).

In the same vein, high SLO would likely lead to low socio-political risk and either acceptance of the project or approval of it, depending on the extent of the SLO and consensus on the amount to confer on the company between members of a community. However, acceptance is the level many companies find themselves occupying because it is the most easily extended by communities (Thomson and Boutilier, 2011). This is illustrated by the fact that 'acceptance' is the widest stratum in Thomson and Boutilier's SLO Pyramid as depicted in Figure 2.2 below.

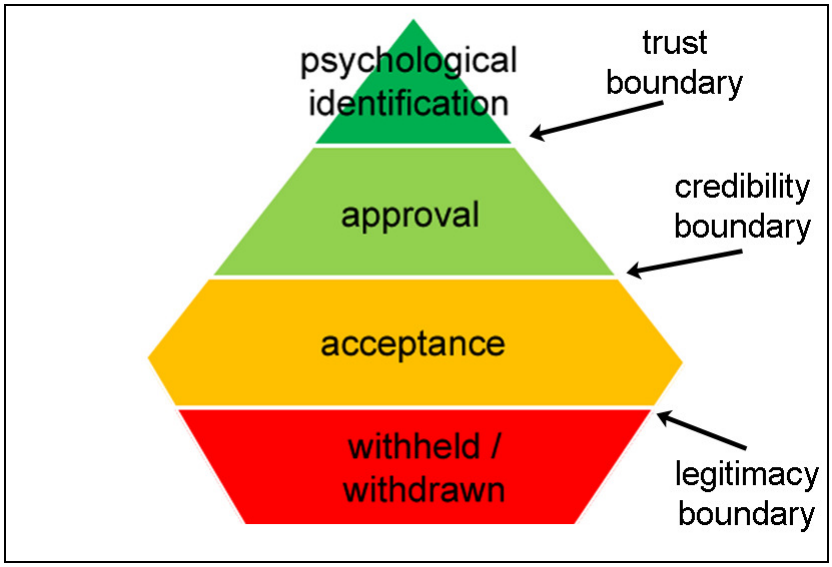

Figure 2. 2: The "pyramid" model of Social License to Operate proposed by Thomson and Boutilier (2011)
Source: Thomson and Boutilier (2011: 2).

The main tenet of the SLO 'pyramid' model proposed by Thomson and Boutilier (2011) above is that as the company attains legitimacy and credibility, it will realise acceptance and approval from the community. As this gradually matures into trust, the community will begin to associate itself with the project and vigorously safeguard its interests (Moffat and Zhang, 2014).

Prno and Slocombe (2012) suggest that the main factor that leads to significant SLO is the pattern of social capital prevalent in the community, which, in turn, derives from structural, relational and cognitive origins. Structural sources of social capital have to do with the strength of the bond and link between a business operation and the community. It is a measure of the extent to which the two have become one, united behind one cause. Relational foundations determine the scope within which mutual benefit, a sense of oneness, and trust obtains between a company and a network of stakeholders. Indeed, this is a higher level of connectedness between company and community. Lastly, a cognitive basis determines the level to which mutual understanding and consensus obtains in the relationship between business and community.

From the above, it appears that whilst Thomson and Boutilier (2011) argue that the converse relationship between SLO and socio-political risk is the key factor that determines whether a project is accepted or rejected by a community and the extent thereof, on the one hand; Prno and Slocombe (2012) contend that the pattern of social capital, which emerges out of an

integration of structural, relational and cognitive inputs, is the main determinant of SLO, on the other.

Moffat and Zhang (2014) argue that so far, Thomson and Boutilier have, by their own admission, been unable to empirically substantiate their cumulative SLO 'pyramid' model. In order to close this conceptual gap, they proffer their own model, which has, as its central contention, the idea that a community's trust in a mining company is the only key to its SLO and is a significant determinant of the community's acceptance of its operations and presence in a specific location.

Furthermore, the authors state that the manner and the amount of times in which a company interacts with a community and responds to and regards its members influences the degree of trust it will earn from that community and the level of acceptance the community will extend towards its operations. In their own words, Moffat and Zhang (2014: 62) maintain:

> *"We expect trust to be a central element of a model of social licence to operate, representing a mechanism by which perceptions of impacts from mining operations, intergroup contact experiences and perceptions of procedural fairness relate to acceptance and approval of a mining operation."*

According to these authors, trust alone is the foundation or basis through which a community will award SLO to a business operation. Such trust consists of the community's views of how the business operation has affected it in comparison to the expectations it held before the business started; as well as good and constructive interactions between employees of a mining company and community members; and impartial and inclusive decision-making processes of a company. Trust earned in this way subsequently leads to acceptance and approval of the project according to Moffat and Zhang (2014).

Whilst trust is a necessary condition for SLO, it is insufficient to secure it on its own. Legitimacy and credibility are essential prerequisites, without which earning trust is unlikely. This is particularly true in environments where there are high levels of mistrust between members of the community themselves, let alone between a company and the community. Volatile and militant communities generally have an impaired ability to trust. In these circumstances, Government intervention is usually critical to introduce the business to the community and initiate a process through which trust can be forged and firmly established. Such Governmental introduction lends both legitimacy and credibility to the presence of the

business and its operations within the specific location. One certainly hopes that this will prove to be true in those communities where the IPP Office has initiated engagements with Provincial Government structures around the country, with a view to formally introduce the REI4P and the IPPs to local communities, as well as municipal and provincial authorities.

Harvey (2014: 7) is quite dismissive of SLO as a tool to promote social development. He argues:

> *"…the [SLO] approach encourages company priorities and behaviours which blur appropriate boundaries between firms, governments and communities; and may lead to unintended consequences which ultimately result in poorer community outcomes, and thence dilution of the 'social licence' eagerly sought. An argument is made for limiting social development 'outreach' and focusing more on 'in-reach', whereby extractive companies prioritise activities aimed at behavioural (and consequently, attitudinal) change across the whole of their organisation to secure trust and support from host communities."*

In other words, Harvey (2014) is suggesting that, contrary to popular belief, it is not engaging with the community and delivering development projects that aim to reduce poverty and improve social welfare, that has a greater potential to build trust and community support for a business operation within a specific location, what he refers to as 'outreach'. Rather, it is a re-orientation and change in the behaviour of staff members of the business operation, what he refers to as 'in-reach', which will do it. Indeed, such a view appears far removed from reality. Although the manner in which a company's personnel engages with community members has a bearing on how the company is perceived and its operations accepted by the community, it does not compare to what meeting the actual needs of communities, through community upliftment programmes, can do to build trust and drum up support for its business operations within the community.

What Harvey (2014) appears oblivious to is that at the heart of opposition and inertia to large business operations in extractive industries such as mining in poor communities, in particular, is that in the past they have blatantly ignored the plight and concerns of host communities and were overtly exploitative and callous in their conduct in extracting the natural and human resources they sought and associated consequences towards the state of surrounding communities, natural resources and environment. Since communities (i.e. local communities, national interest groups and stakeholders, host Governments, and international NGOs, pressure groups and other stakeholders) have discovered the power they have to disrupt,

delay and even shut down such business operations in order to be heard and seen by them, they are bent on using that power.

To advocate that the threat that such newfound community power represents can be removed, amended and assuaged merely by conducting 'local induction courses' for a company's staff complement (Harvey, 2014) is not only short-sighted, it is inappropriate and irrelevant in the context, just as recommending a bandage would be for a headache. What effectively cultivates community trust and support for the operations of a business in such circumstances is a clear demonstration that the company has consideration for the concerns and plight of its host community and is willing to accommodate it in its decision-making. This would likely be more successfully delivered through community development projects than by training company staff members on how to engage with the community and conduct themselves in it.

Certainly, community development projects are not, on their own, adequate to bring about sufficient levels of SLO, but they play a significant role in the process of its issuance, one that is likely greater than training company personnel in local social etiquette.

To further counter Harvey's (2014) position and demonstrate the value of community involvement in improving SLO and to illustrate the ease with which it can be attained when integrated with community equity participation, Prno (2013) provides the example of the Red Dog Mine in Alaska, USA. This mine is a joint venture operation, which commenced in 1989, between the NANA Regional Corporation, which is an entity that is solely owned by the Iñupiato people of northwest Alaska, the host community and Teck Alaska, the project company.

NANA representatives are members of the company's management committee that meets frequently to consider mine reports, pass plans, oversee the execution of its agreement, and find ways to solve problems (Prno, 2013). The community is also represented in the employment and subsistence committees of the company. As an observer correctly pointed out:

> *"…because Red Dog is on NANA owned land, the community has "a seat at the table."*
> (Prno 2013: 579-580).

Moreover, the high SLO that Red Dog enjoys is also due to the economic advantages that the mining operation has reaped for the local community. For example, almost 57% of the

employees of the mine are from the local community and are shareholders in the company, whilst the project company constitutes only around 20% of jobs (Prno, 2013).

Importantly, Prno (2013) sums up his findings by concluding that SLO is peculiar and different from one community to the next. How it is attained in one community may differ from its acquisition in another due to the distinctive local, multi-scale and system-oriented elements at play. In addition, he argues that SLO is mainly about forging and upholding a dynamic partnership between a company and the community, with a view of embedding the former in the life of the latter.

In addition, the extent to which a company links its activities to the type of sustainable development envisaged by a specific community is also critical to nurturing a positive SLO. Also, Prno (2013) argues that being flexible in the process addressing challenging experiences is essential for constructing positive SLO. Finally, the positive economic and social advantages that a project brings to a community and a community role in decision-making play a substantial and key role in earning SLO. In fact, this paper argues that, of all the factors considered by the various authors, these elements are potentially the most significant in bringing about SLO. Prno (2013: 586) concur and concludes:

> *"…the provision of significant local benefits was arguably a primary contributor in the issuance of local support at both the Red Dog and Minto mines."*

In the case of the RIE4P in South Africa, SLO is a by-product of a conscientious socio-economic development agenda pursued by Government, via the procurement process, to promote environmentally sustainable growth while offering uninterrupted access to clean energy (DoE, 2014a). The CEO requirement, combined with the requisite ED and SED obligations of IPPs within the framework of the Programme pave the way for legitimacy and social acceptance for IPP projects at the local level.

The 'Community Ownership for Community Development' that Government introduced through the CEO component of REI4P is invaluable and will likely insulate IPPs from acrimonious relationships between themselves and the communities in which their plants are located. In the absence of CEO in the REI4P, at which point and how else would Government 'educate' the private sector to consider the communities they operate in? How else can Government introduce and instil a culture of 'ubuntu' in the business sector? Clearly, Corporate Social Responsibility (CSR) programmes are not doing enough to lift communities

out of poverty and CEO is a good starting point to get business actively involved in actually making a difference that can be measured and attributed back to the REI4P.

As the case study below indicates, the experience of Anglo Platinum at the Mogalakwena Mine in Limpopo, South Africa, attests to and is instructive of the fact that unless Government provides an appropriate framework within which mining companies, Independent Power Producers (IPPs) and other big business actors can take into account the pressing socio-economic needs of surrounding communities, these actors will likely ignore those needs (Farrell *et al.,* 2012).

The CEO, ED and SED components of the REI4P provide the ideal occasion for big business to ponder and take into consideration the value of social impact management and social restitution in project implementation (Farrell *et al.*, 2012). Additionally, these inherent features of the REI4P pave the way for accessing the community's SLO and maintaining relationships of trust between business and communities – qualities that ultimately lead to ease in doing business, which in turn, is mutually beneficial for communities and IPPs.

Together, CEO, ED and SED represent a consolidated and strong response to the outcry that:

> *"In public policy, greater clarity ought to be given to companies on the degree and manner in which they engage with communities (as requested by Anglo Platinum's Corporate Affairs Director)."* (Farrell *et al.* 2012: 203)

The contractual agreements entered into between the DoE and IPPs give clear direction on how IPPs ought to fulfil their obligations with regards to CEO, SED and ED within the context of implementing the REI4P. In adhering to the terms of the agreements, IPPs obtain some clarity on the manner and extent to which they can engage with communities.

The remainder of the chapter investigates the international experience of CEO and its financing within the renewable energy sector. Following that, a South African case study of how mishandled community-business relations can negatively affect SLO; is presented. After which, two 'positive' local case studies are also shared. Lastly, a range of funding solutions that would afford project companies a chance to 'make room for communities in their board rooms', with a view to fulfil the BBBEE goals as stipulated in the BBBEE Act 53 of 2003 and to empower communities to optimise this rare opportunity to develop themselves and improve their immediate social and economic; are highlighted.

2.3. International Experience in Supporting Community Investment in Commercial Renewable Energy Projects

a) United Kingdom

Even though community investment in renewable energy is also relatively new in the United Kingdom (UK) (Nolden, 2013), it seems to be more developed and 'mature', in terms of both concept and experience, than it is in South Africa. In most developed countries, including the UK, community investment in renewable energy projects is driven and motivated by the citizens themselves and not necessarily piloted and steered by the Government, as is the case in South Africa (Walker *et al.,* 2010). In other words, community equity investment in and ownership of renewable energy projects and schemes in the UK and several other countries in Europe is and has always been largely 'citizen-led' and not 'Government-led' from the very beginning (Seyfang *et al.,* 2013), although the Government has established several programmes to support and promote it in many developed countries. Some of these Government programmes have a grant component. Examples of Government programmes that support community-led initiatives in renewable energy and similar fields in the UK include the Low Carbon Communities Challenge (LCCC), the Low Carbon Building Programme Phase 2E, the Rural Carbon Challenge Fund (RCCF), the Community Sustainable Energy Programme (CSEP) and the Renewable Energy at Community-Scale Programme (RECSP) (Park, 2012).

Approximately 60MW of the renewable energy produced in the UK is generated via community-owned projects. In total, communities have invested an estimated £17 million in renewable energy schemes through 40 community share offers (Haggett *et al.,* 2014a). Elements that have spurred on community investment in renewable energy programmes in the UK include the self-motivation of the society, supportive Governmental programmes and the Feed-in Tariffs system (FiT) (Walker *et al.,* 2010; Nolden, 2013). What is most encouraging is that the clear political will to support the involvement of communities in renewable energy investment in the UK, combined with the introduction of the FiT in April 2010, have resulted in increased financial viability of these projects and also heightened community interest in and knowledge of the existence of such opportunities (Nolden, 2013).

Three main ownership models are recommended by the Shared Ownership Taskforce, which is an important part of the UK Government's Community Energy Strategy, namely, (a) split

ownership: where a community enterprise purchases a portion of a commercial project e.g. a wind turbine or a number of PV panels in a renewable energy venture; (b) shared revenue: where a community purchases a right to a revenue stream; and (c) joint ventures: where the community and a developer collaborate to establish and jointly own a renewable energy project (Shared Ownership Task Force, 2014).

In the UK, community-led renewable energy generation has been stifled by an absence of finance at early planning stages; unpredictability of planning results and high grid connection costs. The main finance instruments that have been deployed in order to address these funding challenges include grants, loans and the issue of shares in projects (Park, 2012).

Another way to address the challenge of funding has been to raise equity funding by launching community share models, although these only raise a limited amount of funding, which may be insufficient for establishing a community energy initiative (Nolden, 2013). An additional source of funding that is gaining attention is the Social Investment Funding, which relies on funds from the Big Society Bank. These funds are directed at social enterprise programmes that may also include renewable energy programmes (Seyfang *et al.,* 2013). The larger banks, such as the Co-operative Bank, Triodos Bank and the Green Investment Bank, are more interested in funding large renewable energy projects (Nolden, 2013). However, community-led renewable energy schemes are usually small. This means that in light of the funding constraints and the fact that large banks are only keen on funding large renewable energy projects, communities find that the best way to secure the necessary funding is to partner with utilities and renewable energy developers, than to 'go it alone' in order to access the required finances (Nolden, 2013).

Of importance is that in the UK the law requires that communities must be constituted and organised in particular, specific structures that are acknowledged and accepted as community enterprises in order to enable them to invest in renewable energy schemes or participate in financial shared ownership agreements. Such structures include Community Interest Companies (CICs), Development Trusts, Co-operative Societies, Limited Companies or Community Benefit Societies (Shared Ownership Task Force, 2014). Most community projects subscribe as Industrial and Provident Societies (IPS), which can assume the form of either a Community Benefit Society or a Co-operative Society (Roberts *et al.,* 2014).

The demarcation between Community Benefit Societies and Co-operative Societies is offered by Roberts *et al.* (2014) (as cited by Haggett *et al.* (2014a: 63), where the authors state:

> *"Community Benefit Societies (BCS) are intended to serve the entire community, whereas Co-operative Societies (CS) are mainly operated to benefit their members and shareholders. A BCS can integrate an 'assets lock', which prevents shareholders and members from being able to benefit from the assets of the BCS beyond their investment in case the BCS is converted into a company or locked down. This ensures that the original purpose of the society is maintained. Both CBS and CS models hold equal rights for their members…….Through an IPS it is also possible to restrict access to the society to certain geographical areas and to enforce the purchase of a minimum number of shares on members."*

A Community Interest Company (CIC) is a separate legal entity that is constituted as a private limited company via shares and guarantees and profits the whole community and not just certain shareholders (Haggett *et al.,* 2014a). A CIC must be evaluated to ensure that it has been constituted to serve goals that benefit the entire community (Haggett *et al.*, 2014a), much like the community trusts, SED and ED activities are monitored by the IPP Office in the South African context. Only limited dividends are paid out to shareholders under the CIC model, however, CICs may qualify for special tax exemptions if they are constituted for purposes of allowing members to invest in renewable energy projects (Roberts *et al.,* 2014).

b) Germany

Citizens own approximately 47% of all the installed renewable energy capacity in Germany, which includes technologies such as solar photovoltaic, biomass/heat and onshore wind, while institutional investors only own about 41.5%, and utilities account for only 12.5% (Yildiz, 2014). Reasons for such high levels of community or citizens investment in renewable energy include the German Feed-in-tariff system which assures investors of sustained revenue streams; promotional lending; local subsidiarity and the inadequate amounts of investment finance that can be raised through joint effort (Yildiz, 2014). Although there is no stipulated baseline or minimum level for the amount that a community should contribute towards the development of a renewable energy project in Germany, the German Wind Energy Association (BWE) recommends that citizens should contribute at least 20% of the total investment required for developing a wind project (BWE, 2012).

The community ownership business models that are most commonly employed in Germany are the energy co-operatives and the closed-end funds. In the energy co-operative model,

citizens often have to buy co-operative shares in order to acquire membership. Alternatively, they must offer loans for the development of a specific renewable energy project, or both (Haggett *et al.*, 2014a). Energy co-operatives are usually established with a view to fully own a renewable energy project, rather than partnering with a developer. One co-operative can, however, partner with another or others in order to acquire or establish a specific renewable energy project (Haggett *et al.,* 2014a). A Citizen Energy Alliance was established at the beginning of 2014. This body assists citizen energy co-operatives by offering technical advice and know-how for the continued expansion of community or citizen-driven renewable energy projects; with a view to promote an independent trajectory towards low-carbon energy development (Haggett *et al.,* 2014a).

Closed-end funds are often established in order to mobilise equity resources via a high volume of investors. They are generally demand-driven and membership is not limited to a particular geographical area or region. Closed-end funds usually comprise two partners and shareholder groups (Haggett *et al.,* 2014a). The project developer or utility that normally initiates the project assumes the form of a limited liability company and takes charge of the business operations of the project, while community members or citizens partake as limited liability partners, responsible only for the capital they need to invest in the enterprise and not for the debts of the project (Yildiz, 2014). Thus, unlike in energy co-operatives, there is a clear demarcation between the supply of equity and the development of the project in the closed-end fund model (Enzensberger *et al.*, 2003).

c) Denmark

Mendonca *et al.* (2009) (as cited by Haggett *et al.* 2014a: 71) sums up the Danish experience in community equity ownership of renewable energy projects in the following words:

> *"Denmark is the original pioneer nation in the development of wind energy and is also the forerunner in local ownership of renewables. There are about 100,000 households holding shares in wind energy which is about 5% of the total population. The process was driven from bottom up through enthusiasts who also influenced the political process in such a way that the Government provided enabling conditions to boost the community energy sector."*

Three main policies fuelled the growth and expansion of community investment in renewable energy projects in Denmark, namely, the Feed-in-tariff system, just like it has in the UK and Germany; tax exemptions; and 30% investment subsidies for new wind energy projects (Lipp, 2007). More specifically,

> *"The right to connect to the electrical grid, legal obligations for electricity utilities to purchase wind energy and a guaranteed fair price contributed to the success of community wind energy in Denmark and a substantial growth of the wind power sector the 1990s. This success resulted in 175,000 households owning 80% of all the turbines in Denmark by 2001, either individuals or through co-operatives."* (Haggett *et al.* 2014a: 71)

This 'boom' in community owned renewable energy projects was shortly followed by a slump, which emanated from a suspension of the FIT system and the abolishment of subsidies by the Government. The reasons for such a turnaround had to do with a desire by the Government to curb the proliferation of small scale wind farms and single turbines owned by co-operatives (Lipp, 2007). This led to the dominance of larger corporations in the renewable energy landscape in Denmark and drove out the small-scale wind projects run by co-operatives (Oteman *et al.,* 2014). Although the FIT system was later changed and re-introduced in 2001, it failed to revitalise and inspire community investment in renewable energy back to previous levels (Lipp, 2007), forcing some small-scale wind developers to sell their plants to larger developers. The FIT system and associated benefits were modified yet again in 2009 (Oteman *et al.,* 2014).

The main community ownership business model used in Denmark is the energy co-operative or wind farm guild (Haggett *et al.*, 2014). Even though they are presented as co-operatives, energy co-operatives are essentially partnerships because the law in Denmark does not permit co-operatives to own wind turbines (Mendonca *et al.*, 2009). Community owned wind projects are purchased through the sale of shares because the partnership arrangement is not allowed to accumulate debt. In the past, individual investors were only permitted to accumulate shares that are commensurate to their household consumption levels (Olesen *et al.*, 2002) and since they were allowed to accumulate debt in order to purchase their individual shares, banks in Denmark have incorporated the finance of wind turbines as part of their offerings. Nevertheless, there are differences between the lending terms and arrangements extended to co-operatives and those designed for individual investors (Olesen *et al.,* 2002).

The Community Foundational Model is another community structure also used in Denmark. However, it is formulated in such a way as to benefit the entire community rather than individual members therein (Haggett *et al.,* 2014). This model is similar to a trust where a pool of resources from the project is used for community development projects. This model is

governed by the Commercial Foundation Act 1985, which requires an amount of 40, 000 euros to be invested in renewable energy schemes (Haggett *et al.*, 2014). Equity investors who choose to invest in a community energy scheme run by a community foundation do not hold any sway over how revenues are used to benefit the community. Lastly, the community foundation is a legal entity that can enter into partnership arrangements with developers and other stakeholders and it enjoys low tax charges (Roberts *et al.*, 2014).

2.4. South African Case Studies on Social License to Operate

2.4.1. The Mogalakwena Mine

The purpose of presenting this case study in this section of the chapter is to illustrate the shift in power relations from a business entity to the community in instances where SLO is lost by the former. It is crucial to emphasise that the issue of collateral is irrelevant in this particular case study because, on this occasion, the community did not seek to obtain a loan with a view to become a shareholder in Anglo Platinum. Rather, the case study demonstrates that not taking heed of the concerns of the community can speedily result in the deterioration of relations between the parties; as well as loss of credibility and thus, SLO, for the business enterprise in the eyes of the community. A negative relationship between a business entity and its host community can lead to the erosion and eventual withdrawal of SLO.

The Mogalakwena mine in the Limpopo Province of South Africa is owned by an Anglo Platinum subsidiary called RPM Mogalakwena Section. The platinum output of the mine ranged between 354,200 ounces in 2007 to 520,200 ounces in 2009, which added approximately R4 billion to the operating profits of Anglo Platinum (Anglo Platinum as cited by Farrell *et al.,* 2012). The area in which the mine is located has and continues to experience extensive poverty and suffered systematic marginalisation in the past due to the apartheid policy (Farrell *et al.,* 2012).

The mine began operating in 1993, following a land lease agreement reached between itself and traditional leaders of the area, which covers a number of villages (Farrell *et al.,* 2012). The agreement included issues such as: (a) the mine would pay an upfront initial fee and an annual rent fee for the land used; (b) the mine would establish a community trust to benefit the community, which would receive a yearly payment equivalent to 0.75% of the Net Present Value (NPV) (equal to R95 million) of the projected operating costs of the mine until the expiry of its operations; (c) the mine would fund the resettlement of several villages to

make way for mining operations; and (d) the mine would initially recruit its employees from the local communities, with a goal of at least 30% of employees sourced from communities around its location (Farrell *et al.,* 2012). This last feature is similar to one that is integral to the Economic Development (ED) element of job creation in the REI4P. In return, the mine would have the sole rights to the land for the duration of its economic lifetime (Farrell *et al.,* 2012).

However, none of these conditions were completely upheld by the mine (Farrell *et al.,* 2012). For instance, it was not certain whether the lease payments were indeed being made by the mine. If they were, it still remained unclear how such payments were benefiting the community. In addition, the company failed to adhere to the goal of recruiting 30% of its workers from the local communities, citing poor quality education in the area as the main reason. Worse still, the 2007 fall in the price of platinum led to the retrenchment of mine workers (Farrell *et al.,* 2012). Since there was no strong, transparent governance system in place, the community had no recourse to compel the mine to comply with the terms of the agreement.

In addition, the mine ignored recommendations of a socio-economic study that was undertaken as part of the Environmental Impact Assessment (EIA) when it expanded its operations and relocated communities from Motlhotlo (Farrell *et al.,* 2012). For instance, the study indicated that community members had high hopes for improved economic status and living conditions as a result of the relocation programme and that it would be necessary to establish measures for the long-term provision of basic services, which inculcate the inability to pay for such services by the residents at the new site. To this end, the study suggested that a partial subsidy scheme should be established, parallel to conducting negotiations with providers of basic services (Farrell *et al.,* 2012).

In the end, the mine lost credibility, undermined the trust of the community and jeopardised its SLO by completely ignoring and side-stepping all the warning signs for the need and relevance of "cultural, relational and representational facets" of community-company relations, as well as participatory decision-making in the examples cited above (Farrell *et al.,* 2012). In addition to community resistance, the mine had to contend with attention from ActionAid, the Human Rights Commission of South Africa (HRCSA) and the international media (Farrell *et al.,* 2012). All this combined to put pressure on the company to amend its actions in the area, something that could have been avoided had it carefully inculcated social

concerns; acknowledged the power of community resistance; and took into account the significance of SLO. This experience is indicative of the urgent need to assimilate SLO in the business models of big companies in resource development industries such as renewable energy and mining in South Africa.

Indeed, the afore-mentioned case study decries the lack of strong institutions to 'police' the commitments made, particularly by business entities, in business-community partnerships and underscores the need for such institutions to ensure that the stronger partner delivers on its commitments to the weaker. Without a doubt, the achievement of SLO largely depends on well-functioning, accountable Government systems and robust institutions. It is in view of this that highly regarded institutions that set international best practice, such as the World Bank, argue that the attainment of SLO rests on a firm partnership between Governments, investors and local communities and that trilateral negotiations between these parties should ensue from the time that resource development and infrastructural programmes such as the REI4P are conceived.

2.4.2. A Business-Community Forestry Partnership: The Case of Sappi and Mondi

The Mogalakwena Mine case study certainly does not seek to suggest that there are no success stories of mutually beneficial business-community partnerships and development projects in South Africa. On the contrary, in fact, several good examples exist. A case in point includes Sappi and Mondi forestry companies, which have accessed the SLO of some communities via forestry outgrower schemes.

The forestry outgrower schemes involve forestry companies providing seedlings, credit, fertilizer and extension advice to smallholders who grow trees on their behalf. Although this only provides 10% of mill output for the two companies and is more costly than wood from alternative suppliers, it avails fibre that would alternately remain absent due to limitations posed by the land tenure system (Mayers and Vermeulen, 2002). In this way, the outgrower schemes lend credibility to both companies at a very critical era where land rights and land distribution are increasingly becoming sore points in South Africa.

Among the existing outgrower schemes, one is owned and run by the growers union, whilst the cooperative retains the title of the other (Mayers and Vermeulen, 2002). Direct consequences include equity ownership in the downstream tannin factory by members of the

growers union, improved agency and seeking the most profitable price for fibre. Importantly, these outgrower schemes have benefitted communities in critical ways, including improved household incomes, better infrastructure and the enhanced procurement of land rights (Mayers and Vermeulen, 2002).

2.4.3. 'An Education in Partnership': The Lonmin Platinum Mine Community Trust and Microsoft

Another 'feel good' story with potentially high SLO mileage is the partnership between the Lonmin Platinum Mine Community Development Trust and Microsoft, which led to the establishment of 25 computer laboratories and the training of approximately 500 teachers from local schools around the Marikana community in the platinum belt of the Northwest Province of South Africa (Bardien, 2015). The project sought to train teachers to incorporate information and communications technologies as an integral pedagogical tool in the classroom. The expectation is that this will ultimately result in a well-resourced and skilled pool of potential workers for the Lonmin Platinum Mine, whilst simultaneously improving the marketability of students in the job market (Bardien, 2015).

2.5. Lessons for South Africa from International Experience

The Feed-in-Tariff system has played a crucial role in motivating citizens to mobilise and initiate significant renewable energy investment in the UK, Germany and Denmark. Parallel to this, a self-driven society and supportive Government policies and programmes have also gone a long way to promote community investment, shareholding and ownership of renewable energy power projects in these countries.

In view of the above, the South African Government has a lot of work to do to create a conducive environment through which local communities in the country can be sufficiently empowered and encouraged to initiate their own renewable energy projects. In doing so, communities would need to be highly capacitated that they can, on their own, mobilise the necessary financial resources that are required to invest in the renewable energy sector, as well as initiate partnerships and effectively negotiate with project companies and utilities from developed and more experienced renewable energy markets from countries such as Germany, Denmark, Spain, Italy, the UK, Canada and the United States of America (USA), to name just a few, in order to invest in highly profitable renewable energy projects locally. For this to happen, communities have to be lifted out of poverty and be assisted to cast off the

'poverty mentality' and adopt a 'Yes, we can!' attitude. Bringing this about will take a lot of charisma, sustained zeal and the right policy environment on the part of Government.

Each developed country that was discussed above has designed several unique community ownership business models that suite or match specific groups of people, under a unique set of circumstances. Both communities and IPPs can work closely together in South Africa to design community business models that are well suited for their own specific needs, circumstances and locations; rather than rely solely on community trusts.

2.6. Determinants of success and failure in the drive to support community investment in commercial renewable energy projects

Based on the international and local experiences discussed above, a few key determinants for success and failure in funding local community investment in commercial renewable energy projects are noteworthy. First, communities are often not aware of alternative funding opportunities that may exist in the market (Haggett *et al.,* 2014a). This points to the need for greater research capacity in communities and strategic positioning and marketing of financial institutions as the 'go-to' institutions for accessing funding for community investment in renewable energy. This is particularly true in developed countries where private financial institutions are more willing to and experienced in funding investments by communities in commercial renewable energy projects.

In addition, Haggett *et al.* (2013) argue that community investment in renewable energy projects is more likely to succeed in communities which are less impoverished than in those where there are high levels of destitution, particularly during the inception phase of such schemes. Moreover, the authors contend that local community investment in renewable energy has a higher probability for success when motivated by carbon emissions reduction as opposed to financial incentives.

Furthermore, these experts point out that pre-existing community groups and structures are more likely to succeed at initiating and sustaining investment in renewable energy projects than those that are established for the sole purpose of investing in renewable energy projects. A clear definition of what communities are and what this meaning entails within the context of local community investment in renewable energy projects and the sphere of public debate

within the energy sector would likely enhance success in implementation (Haggett *et al.,* 2014a).

Dedicated Government support schemes and incentive programmes also play a crucial role in stimulating increased community investment in renewable energy projects. Moreover, Prno and Slocombe (2012) point to company efforts to appreciate and comprehend local culture and, subsequently, take culturally-sensitive decisions in dealing with the community, as well as consistent communication with the community, as crucial success factors.

In the same vein, Mitchell *et al.* (2005) state that a clear understanding of the social and political contexts within which a renewable energy project is located is fundamental to its success. Failure to take cognisance of this may result in friction between project developers and communities, which, in turn, may lead to the reduction and perhaps, even the withdrawal of SLO, in some instances. This is what socio-political risk entails in this context. As indicated above, the higher the socio-political risk, the lower the SLO and the inverse is true.

Some of the key elements that can result in the failure of efforts to promote local community investment in renewable energy projects include: the lack of know-how to invest in and limited sources of finance to support community investment in renewable energy projects; poor dissemination of information and inadequate skills; the absence of focused and tailor-made support programmes to promote local community investment in renewable energy projects; absence of trust between communities and renewable energy project developers; and the lack of community solidarity, where it is unclear as to whom to involve and how to go about doing so in such projects (Haggett *et al.,* 2014a).

2.7. Common Funding Sources and Mechanisms for Financing Renewable Energy Investment

This final section of the chapter seeks to highlight the main funding sources that are often employed by investors to fund renewable energy projects and the various key components associated with them. Some of these may have also been used to finance CEO within the framework of the REI4P.

2.7.1. Corporate Finance versus Project Finance

Wiser *et al.* (1997) state that there are two main approaches used to finance renewable energy projects, namely, project financing and corporate financing. The key difference between the two is how debt is structured in each.

Independent Power Producers (IPPs) generally use project financing to fund renewable energy projects. Therefore, project financing is more common than corporate financing, which is limited to a few utilities. Corporate financing occurs when corporations such as large utilities approach public or private lenders to borrow funds and rely on the corporate balance sheet for repayment. That is why it is often referred to as 'balance sheet finance' (Wiser *et al.,* 1997).

Project finance occurs when lenders rely on the cash flow and assets of the project for repayment as opposed to the assets or credit of the developer of the facility (Wiser *et al.,* 1997; IRENA, 2012). The loan is advanced mainly on the basis of the revenue stream that will emerge out of the Power Purchasing Agreement (PPA). Thus, long-term power purchase commitments that assure a revenue stream are crucial (Wiser *et al.,* 1997). The revenue and assets of the project are relied upon to supply equity returns, debt service and loan security (Niehuss, 2010; IRENA, 2012).

A key feature of project finance is the demarcation of the cash flows of the project from those of the sponsor. There must be a clear separation between the two. That is why the assets that are project related are proffered a distinct legal entity Special Purpose Vehicle (SPV) so that they are protected from any sponsor-related insolvency (Deloitte, 2012). Figure 2.3 below presents a panoramic view of project financing.

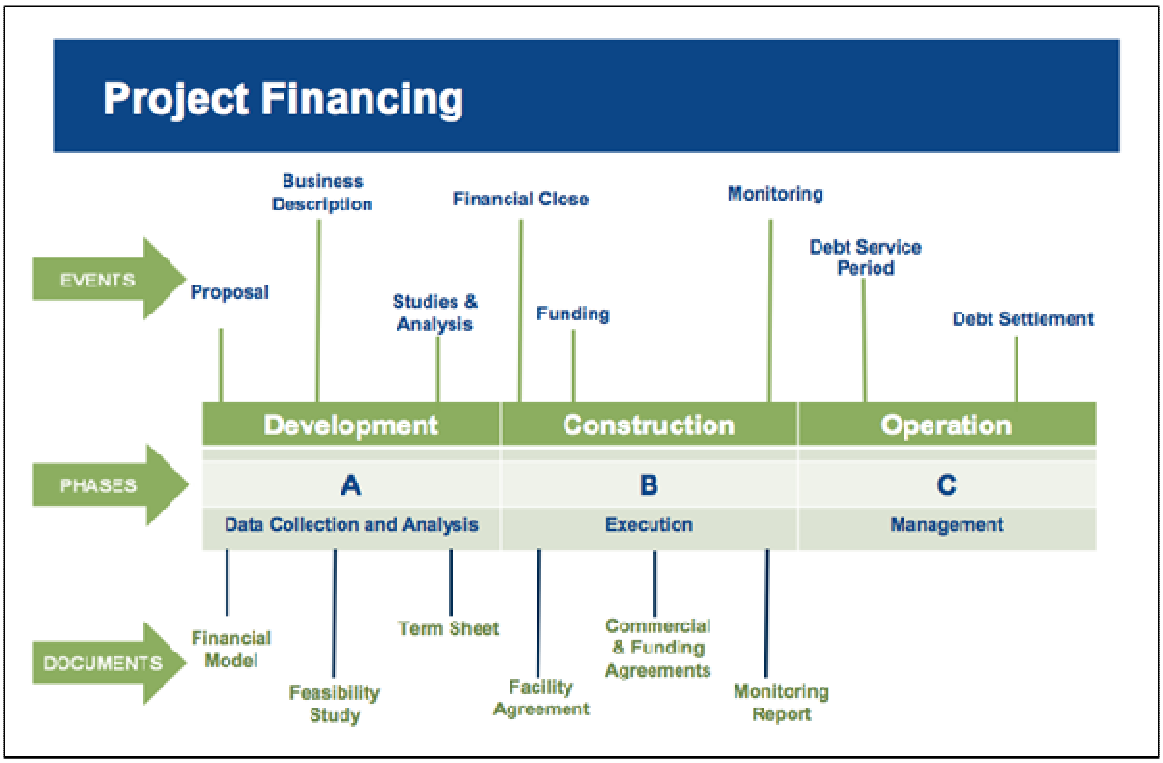

Figure 2. 3: Overview of Project Financing
Source: Saba (2010).

2.7.2. Corporate Lending

This type of finance is usually offered by banks in order to fund the daily operations of a company. Quite often banks do not place many onerous conditions on how companies can utilise these funds, as long as some specific prerequisites are adhered to (IRENA, 2012; Bobinaite and Tarvydas, 2014).

2.7.3. Mezzanine Finance

This type of finance is also referred to as subordinated debt because a mezzanine loan is only paid after senior debt has been paid and is thus riskier than the latter. Mezzanine finance occupies the strata between senior debt and equity finance and thus has characteristics of both debt and equity (IRENA, 2012; Bobinaite and Tarvydas, 2014). Hence, while it is subordinate to senior debt, it takes precedence over equity finance. Although it has higher returns than the lending rates of banks, it offers lower returns than those required by equity investors. Companies with stable income streams and high growth expectations often rely on mezzanine finance because of its high return requirements (IRENA, 2012; Bobinaite and Tarvydas, 2014).

2.7.4. Refinancing

When a project needs to substitute existing debt provisions with new ones, refinancing comes into the picture. This often occurs when fairer and more appealing terms become available in the market as financiers become more familiar and comfortable with the renewable energy environment. A long loan period may also motivate refinancing in order to mitigate against a loan that becomes more expensive over time (IRENA, 2012).

2.7.5. Other Types of Financing

i) National and Multilateral Development Banks

National Development Banks such as the Development Bank of Southern Africa (DBSA) in South Africa; the Brazilian Development Bank (BNDES); and the Mexican Development Bank (NAFINSA) also provide finance for the development of the renewable energy sector in developing countries. Such institutions provide both financial and non-financial assistance for renewable energy development (IRENA, 2012). The Industrial Development Corporation (IDC) in South Africa is also supportive of the sector and especially provides funding to finance community equity participation in the REI4P, together with the DBSA and the Public Investment Corporation (PIC).

Multilateral Development Banks (MDBs) such as the World Bank, the African Development Bank, the Asian Development Bank and the European Bank for Reconstruction and Development (EBRD) also offer both technical and financial support for renewable energy development in many developing countries (Bobinaite and Tarvydas, 2014). These institutions often offer finance in the form of concessional and non-concessional loans. They also provide grants, often with terms that call for commitments to implement specific economic and financial policies (Bobinaite and Tarvydas, 2014). Gujba *et al.* (2012) also provide a range of multilateral and bilateral funds that have been made available in order to finance investment in low carbon energy access in Africa.

ii) Venture Capital, Private Equity and Funds

Equity investment means investing in a company in order to secure a portion of its ownership. The type of financing that is required for financing the establishment of community trusts relates to this category of funding. The choice of investors here includes private equity funds, infrastructure funds and pension funds (IRENA, 2012; Bobinaite and Tarvydas, 2014; Gujba *et al.,* 2012).

Table 2.1 illustrates the key characteristics of funds that are available for financing renewable energy projects.

Table 2. 1: Main Features of Funds Used to Finance Renewable Energy
Source: Bobinaite and Tarvydas (2014: 265).

Type of fund	The main features
Venture capital funds	Money raised from a wide range of sources with high-risk appetite to include insurance companies, pension funds, mutual funds, high net worth individuals; Target new technology, new markets; Interested in early-stage companies; High risk of failure in every venture; Investment horizon around 4–7 years; Return requirement is of 50–500% internal rate of return.
Private equity funds	Money raised from a wide range of sources with medium-risk appetite to include institutional investors and high net worth individuals; Target opportunities with possibility for enhanced returns; Interested in companies and projects with more mature technology, including those preparing to raise capital on public stock exchanges, demonstrator companies, or under-performing public companies; Investment horizon is 3–5 years; Return requirement is of 25% internal rate of return.
Infrastructure funds	Funds drawn from a range of institutional investors and pension funds; Target "infrastructure", i.e. an essential asset, long duration, steady low risk cash flow; Interested in roads, railways, power generating facilities; Investment horizon is 7–10 years; Low risk and return, 15% internal rate of return.

In summary, sources of finance to fund renewable energy investment include national budgets via tax concessions, bank loans, concessional loans from National and International Development Finance Institutions (DFIs), capital grants from bilateral and multilateral organisations, as well as international and domestic private investors (Gujba *et al.*, 2012).

2.8. Policy Implications and Considerations for Improved and Conducive Financing for Renewable Energy Investment

IRENA (2012) and Wiser and Pickle (1998) convey very important policy messages regarding the mobilisation of resources to finance renewable energy investment, particularly in developing countries. For example, they argue that a holistic strategic approach that aims to take on board the unique features of the local environment, combined with a supportive policy context with specific, focused programmes are essential for the effective mobilisation of renewable energy finance. If carefully structured, policy interventions can go a long way in reducing the finance costs of renewable energy investment. The authors also indicate that

both energy and finance policies should be closely considered and balanced in the design of regulatory frameworks (IRENA 2012; Wiser and Pickle, 1998).

Flexible and variable public finance programmes should be made available to renewable energy investors so as to optimise funding options and integrate a portfolio approach that limits path dependency on any one renewable energy technology (IRENA, 2012).

Externalities must be incorporated into the price of energy. This, combined with the deregulation of energy markets in many countries, has the potential to facilitate price discovery that can promote the free entry and exit of renewable energy investors (IRENA, 2012). Renewable energy programmes should also cater for capacity building that focuses on local project developers, local finance institutions, civil servants and relevant institutions (IRENA, 2012). Lastly, macroeconomic restructuring aimed at attracting Foreign Direct Investment (FDI) into the country, in general, will inevitably appeal to international renewable energy investors and thus promote renewable energy investment in South Africa, particularly under the REI4P (IRENA, 2012).

SLO may very well be one of the prerequisites for financing if socio-political risk is likely to be high within a particular community where a REI4P project plant is contemplated. Without SLO, chances are that renewable energy financing may be rendered redundant, particularly in contexts where communities are vocal, militant and opposed to renewable energy investment, for one reason or other. In addition, the current funding of community equity ownership is intertwined with Government's efforts to promote rural development and the BBBEE agenda, which, in an ideal world, ought to 'guarantee' SLO for IPPs. In view of this, can private financiers be convinced of the value of SLO enough to partake in the endeavour to support the empowerment of local communities by financing CEO in South Africa? This remains to be seen.

2.9. Summary

SLO is essential in order for REI4P projects to be accepted, supported and trusted by the communities in which they are located. Where positive SLO does not prevail, the REI4P projects will likely be exposed to socio-political risk, which may threaten their implementation and hence, their survival.

Cases have been reported where communities have disrupted operations and barred workers and officials from entering company premises due to grievances against MNCs, particularly in the mining sector. Aside from promoting rural development; the CEO, SED and ED components of the REI4P seek to level the playing field for high levels of SLO to obtain in communities in order to facilitate the success of the Programme.

Financing community equity participation has generally been the forte of the IDC, DBSA and PIC. With several IPP Programmes coming up, covering areas such as coal, co-generation, and others, will these funders be able to continue availing funds for communities to own a stake in the project companies or will new ways have to be found to uphold positive SLO for IPPs? What other alternative sources are available to enable communities to invest in the IPP project companies in their areas? The remainder of the thesis will seek to address this last question.

Chapter 3: Research Methodology

3.1. Introduction

This third chapter of the thesis discusses the research methodology employed to implement the study. The previous chapter illustrated the potential role that Social License to Operate (SLO) can play in evaluating the socio-political risk that financiers would contemplate in determining whether or not to provide the necessary funds for equity investment in resource development sectors such as renewable energy and mining, in general, and funding the shareholding of communities in project companies within the context of the REI4P, in particular.

The responses from the different role players in the finance sector and IPPs in South Africa were critical in shaping the findings and reaching the conclusions of the study. The main area of focus for the research was articulating the financing options proposed by finance institutions, IPPs and other experts for funding community equity ownership in the REI4P.
Before delving into the research design, methodology and analysis used for the study, it may be important to be mindful and take cognisance of the concepts of research, on the one hand, and methodology, on the other.

Ryan *et al.* (2002: 7) define research as:

> *"…a process of intellectual discovery, interpretation and communication, which has the potential to transform our knowledge and understanding of the world around us."*

From the above, it may be argued that research is necessary in order to generate and elucidate new knowledge so as to apply it to the world around us for its improvement and that of our own quality of life.

In addition, several authors (Bhattacherjee, 2012; Ryan *et al.,* 2002; Cassell and Symon, 2004; Greener, 2008) portray research as essential for gathering data to validate and substantiate or disprove existing hypothesis and theory (often referred to as *deductive research*), as well as for constructing new theory by first collecting data on the basis of which new knowledge can be formulated *(inductive research)*. In other words, whilst deductive research is for testing existing theory, inductive research is more innovative in that it conceives new theory and phenomenon, based on observed data and information.

It may be vital to point out here that this study is exploratory in nature in that it represents a first step towards addressing the challenges posed by community shareholding in project companies within the framework of the REI4P, in general, and identifying options for tapping into the required funding to make that a reality, specifically.

Indeed, the study recommends particular areas for further research that relate to community equity ownership within the renewable energy sphere in South Africa. It is this subsequent research, which ultimately may lead to the proposal of new theory, when a body of knowledge has sufficiently matured and firmly established around the subject of renewable energy in South Africa or test existing theory. The key motivation behind the selection of an exploratory path for the study, over a theory testing or building one, was the lack of data related to the renewable energy sector in South Africa, as well as its infancy, coupled with the fact that the REI4P itself is a relatively new programme. Therefore, not much research has been carried out within the renewable energy space and the competitive bidding process, inherent in the REI4P, makes access to and publishing of information related to the sector all the more harder due to its confidentiality requirements. That being said, the study intrinsically leans more towards a deductive approach.

Although specifically related to the field of science, Bhattacherjee (2012) argues that research also aims to contribute to a body of knowledge and must follow clear and specific procedures and approaches that can be replicated in its implementation to verify its findings and conclusions. Similarly, Goddard and Melville (2004) argue that good research is systematic because it is structured, well-thought out and has a distinct aim. Certainly, this study sought to attend to this specific objective of research. Instead of testing the validity of existing theory or formulating a new model, the study sought to add to the body of knowledge that is currently emerging in the renewable energy space in South Africa.

In defining research methodology, Kothari (2004) makes a distinction between the latter and research methods or techniques. He argues:

> *"....when we talk of research methodology, we not only talk of the research method but also consider the logic behind the methods we use in the context of our research study and explain why we are using a particular method or technique and why we are not using others so that research results are capable of being evaluated either by the researcher himself or by others."* (Kothari 2004: 8).

This means that methodology is conceptually broader than research methods and, in fact, incorporates research techniques as one of its main elements. In addition to research methods used in a study, other features of research methodology include, among others, why the research was conducted in the first instance; what research problem it sought to address; the logic behind and in what way the hypothesis was framed; the reasons behind the selection of the research techniques used in the study; what data was gathered; why it was collected in a specific way vis-à-vis other approaches; how the data has been analysed and why that specific approach of data analysis was selected (Kothari, 2004; Childers, 2007). Thus, whilst research methodology is all-encompassing and constitutes the description of the entire research process, research methods are but one component of the whole, one element of research methodology.

In light of the above, the key objective of this chapter is to present the entire continuum of the research process that was followed in this particular study, that is, to convey and articulate the research methodology pursued in the execution of the study.

3.2. Description of Research Design

Saunders *et al.* (2009) argue that research design consists of an overall proposal of how the research question will be addressed. At the same time, the authors state that it comprises the research approach, data gathering methods, as well as analysis procedures that are employed in the conduct of a study within a specified time frame. Similarly, Kothari (2004) states that research design should, at the very least, comprise the research problem; data collection methods; research participants; and data analysis and processing techniques. In view of the definition of research methodology presented above, what then, if any, is the difference between research methodology and research design?

De Vaus (2001) argues that research design concerns itself with the output of the study, that is, the form or nature that the study will assume as well as the type of results the study will produce. For example, is the study a comparative study, an exploratory study or an interpretive one? Does the study take an inductive or deductive approach? Moreover, the starting point for research design is the research question and it attends to the reasoning or rationality behind the research. In this way, research design is concerned with identifying the right type of evidence to fully answer the research question (De Vaus, 2001; van Wyk, 2012).

Research methodology, on the other hand, attends to the entire spectrum of the conduct of the research and the types of instruments and processes to be followed therein (van Wyk, 2012). The section that follows will very briefly outline five different types of research designs; which one of them was selected for this study; and why.

3.3. Types of Research Design

3.3.1. Exploratory research design

An exploratory research design is employed when there is very limited knowledge about a particular field of study and there is insufficient data to rely upon to forecast a likely outcome. As such, exploratory research designs are likely to produce more tentative results than definitive ones in that they prepare the ground work for deeper, more robust research to be conducted at a future point because they aim to establish only preliminary understanding and familiarity on an issue for more comprehensive investigation in future (Cuthill, 2002; Taylor *et al,*. 2002). This aptly depicts the research assignment under discussion in this report.

3.3.2. Historical research design

Historical research design aims to prepare for the collection of data from the past in order to compile evidence to either support or refute a theory or hypothesis. Data sources can either be primary or secondary and may include diaries, official records, reports, archives and other information such as maps, pictures, audio and visual recordings. As such, a historical research design is well suited for trend analysis. Because it relies on data that already exists, the actual performance of research has no bearing on the outcomes of the study (Gall *et al.,* 2007; Savitt, 1980).

3.3.3. Longitudinal research design

A longitudinal research design is interesting because it maintains the same sample and tracks it over time by recurrently studying it at regular intervals. This allows a researcher to observe variations over time and connect them to elements that could point to the reasons behind the changes. Longitudinal design is a form of observational study often called a panel study (Anastas, 1999; Kalaian and Kasim, 2008; Ployhart and Vandenberg, 2010).

3.3.4. Meta-analysis

A meta-analysis condenses the findings of a series of studies in order to highlight interesting facets of an observed phenomenon, so that ultimately a new perspective and understanding of the research problem is found through a process known as synoptic reasoning. It involves assessing the variances in the results of the various studies and improving the accuracy with which effects are measured (Cooper *et al.,* 2009; Guzzo *et al.,* 1987). Insufficient data can significantly hamper the successful implementation of a study that utilizes meta-analysis. Moreover, if the results of the various studies that are observed are very different, it becomes all the more difficult to establish a synopsis of results that is objectively defensible. The vast differences undermine the authenticity and validity of the synopsis of results (Lipsey and Wilson, 2001; Walker *et al.*, 2008).

3.3.5. Observational design

In an observational design, the subjects of a study are compared to a control group in order to draw the key findings of the study. There are two types of observational design, namely direct observation and indirect observation. In the former, the subjects know that they are being studied, whilst in the latter; they are oblivious to the fact. Studies undertaken using this approach are often flexible and do not require a hypothesis through which to be launched. They rely on new, emerging data rather than existing data. However, the reliability of data generated this way is usually low and it cannot be duplicated or repeated easily (Atkinson and Hammersley, 1994; Quinn, 2002; Rosenbaum, 2010).

This study followed the exploratory research design because it sought to gain insights and familiarity with the subject of CEO within the national renewable energy programme of South Africa. CEO in infrastructural and resource development projects is founded on the BBBEE dimension that is inherent in these programmes and as such, is largely unique to the South African context. Such a dimension is necessitated by the requirement for restitution, particularly to the black populace in South Africa, due to the effects of the apartheid era on it and the economy as a whole.

Moreover, the REI4P is also a relatively new programme, which means that it is still largely untested and research into its various facets is still emerging. Furthermore, because it is based on competitive bidding, a lot of the data that the programme generates is often highly confidential and is not in the public domain. All these factors necessitated that an exploratory

approach be pursued in order to lay the ground for more extensive research to be undertaken in future. The outcomes of future research may then be utilized to formulate new theory or test an existing one.

Since this study was exploratory in nature and sought to access and solicit the views of financial experts and IPPs on alternative approaches for financing community equity ownership within the framework of the REI4P in South Africa, it employed a combination of questionnaires, semi-structured face-to-face interviews and some telephone interviews to gather data.

Thus, the study essentially constituted a cross-sectional field survey, where all variables, both independent and dependent, were evaluated simultaneously, using one short questionnaire, in view of the limited time available to undertake it (Bhattacherjee, 2012).

Furthermore, the author consulted and incorporated secondary data sources in order to enrich the study. For instance, some of the alternative funding sources and options that were proposed by industry experts (both in the energy and finance sectors) during the data-collection phase are in existence and required further reading and amplifying by the author.

3.4. Description of Study Population and Justification for Type of Sample Used

The sample used in the study was made up of two distinct groups. The first consisted of financial institutions, whilst the second was made up of IPPs or Sellers that are participating in the REI4P. This planned and deliberate type of non-random study population selection is known as purposive sampling (Kelley *et al.*, 2003).

It was imperative that financial institutions take part in the study since the objective and focus of the research relates to the financial sector in that it seeks to identify alternative funding options for the financing of community equity ownership in the REI4P. The study focused squarely on the financial sector and therefore, enlisting financial institutions in the primary sample of the study was inevitable.

To this end, the primary sample consisted of five (5) financial institutions out of the seven (7) that were consulted out of a pool of eight (8) major lending institutions in the renewable energy domain in South Africa (Baker and Wlokas, 2014). The financial institutions that participated in the questionnaire survey were labelled Institution F1 to F5.

The second sample comprised ten (10) IPPs that have been awarded contracts in the REI4P out of a total of fifteen (15) that were consulted. These were labelled Institution S1 to S10. The total number of IPPs that were active under the REI4P at the time when the study was conducted was sixty-four (64). In selecting the sample, consideration and priority were given to project developers who had participated in more than one Bidding or Competitive Round and thus had projects in at least two Bid Windows. These were preferred because they would have had to identify financing for community equity ownership on more than one occasion and therefore, have more experience and knowledge of the vagaries of financing renewable energy in South Africa, especially, sponsoring the programme features that are unique to the South African context, such as local community ownership or CEO.

No conscious effort was made to select respondents on the basis of technology. The fact that the majority of those Sellers who partook in the study derived from the solar energy sector, particularly Solar PV, was merely coincidental, since there are more solar energy IPPs than there are wind energy developers in the Programme, as a whole. Thus, the IPP respondents was a mixed bag of solar and wind energy developers, with solar taking the lion's share, simply on the basis of having the highest representation in the programme. The IPPs who participated in the study are not divulged in this report so as to protect their identity as promised to them during the data-gathering phase.

A total of fifteen (15) IPPs were consulted for this study. One refused to participate in the study, whilst another responded quite comprehensively and further invited the author to a site visit to explore other potential perspectives of the study, including the challenges presented by community trusts, and to discuss the possibility of extending the research to inculcate them. Another Seller opted for a telephone interview, instead of completing the questionnaire. In all, ten (10) responses were received from IPPs.

3.5. Data Collection

The principal data gathering tool used for the study was a questionnaire. Two similar yet distinct questionnaires were designed, each for the two groups of study subjects that were examined and interrogated. This was supplemented by face-to-face semi-structured interviews, telephone interviews and e-mail communication, in some instances.

A questionnaire is a data-gathering instrument that consists of a list of questions that is presented to a selected group of people from whom information is solicited (CRCT, 2015). Consequently, the same type of data is collected in the same manner. It often also includes instructions on how to address the recorded questions it reflects and information on administrative issues associated with managing the questionnaire itself, as well as details to facilitate its successful completion. Importantly, the tool usually makes provision for responses to the questions raised therein and doubles as a record of answers offered by each respondent (CRCT, 2015).

Questionnaire respondents must be given full information on its aim, specifically, and that of the study, on the whole. This ensures that they are aware of what information is required from them and why it is needed so that they can answer questions appropriately and fully meet the objectives of the study (Key, 1997).

The type of information that a questionnaire gathers may relate to feelings, beliefs, experiences, perceptions or attitudes of a specific group of people (Key, 1997). To this end, Ackroyd and Hughes (1981) indicate three distinctive information categories that can be collected via a questionnaire, *viz.* factual, attitudinal and explanatory. It is quite likely that all these types of information were fused in this study because questions related to experiences and the status quo in the questionnaire elicited factual responses, whilst those that dealt with proposals for change yielded responses based on attitude and explanations. Because researchers commonly use the data generated via questionnaires to make generalisations, the study sample must be carefully selected (UOL, 2015).

Tables 3.1 and 3.2 present the advantages and disadvantages of questionnaires. The main reason why the two have been demarcated and presented separately is that each advantage does not necessarily correspond to the disadvantage in the same row.

Table 3. 1: Advantages of Questionnaires
Source: Compiled from data sourced in UOL (2015).

Advantages of Questionnaires
1. They are practical.
2. Large amounts of information can be collected from a large number of people in a short period of time and in a relatively cost effective way.
3. Can be carried out by the researcher or by any number of people with limited effect to its validity and reliability.
4. The results of the questionnaires can usually be quickly and easily quantified by either a researcher or through the use of a software package.
5. Can be analysed more 'scientifically' and objectively than other forms of research.
6. When data has been quantified, it can be used to compare and contrast other research and may be used to measure change.
7. Positivists believe that quantitative data can be used to create new theories and / or test existing hypotheses.

Table 3. 2: Disadvantages of Questionnaires.
Source: Compiled from data sourced in UOL (2015).

Disadvantages of Questionnaires
1. Some argue that questionnaires are inadequate to effectively capture and articulate some forms of information, particularly those that have to do with body language, changes of emotions, behaviour, feelings, etc.
2. Phenomenologists state that quantitative research, particularly that collected via questionnaires, is simply an artificial creation by the researcher, as it is asking only a limited amount of information without explanation.
3. Lacks validity.
4. There is no way to tell how truthful a respondent is being.
5. There is no way of telling how much thought a respondent has put in.
6. The respondent may be forgetful or not thinking within the full context of the situation.
7. People may read differently into each question and therefore reply based on their own interpretation of the question - i.e. what is 'good' to someone may be 'poor' to someone else, therefore there is a level of subjectivity that is not acknowledged.
8. There is a level of researcher imposition, meaning that when developing the questionnaire, the researcher is making their own decisions and assumptions as to what is and what is not important. Therefore, they may be missing something that is of importance.

For purposes of this study, the questionnaire was selected precisely because of the reasons stated in Table 3.1 above. Despite the slow, and in some cases, unresponsiveness of some participants, the questionnaire proved to be less arduous and costly, both in terms of time and financial resources, than setting up appointments with respondents and conducting face-to-face interviews with all respondents would have been. Indeed, time and financial resources both proved to be constraints in the execution of this research project.

Although refuting some of the weaknesses of questionnaires identified in Table 3.2 above may take some doing because they are true, there appears to be a contradiction on the

question of validity. Whilst Table 3.1 claims that questionnaires allow for flexibility and maintain validity and reliability, regardless of the number of people who administer them, Table 3.2 asserts that questionnaires, as data-gathering mechanisms, generally compromise validity. Thus, it appears that the verdict is out on the matter of whether or not questionnaires jeopardise validity in the implementation of a study. Regardless of the outcome, the questionnaire proved to be the most practical tool in the implementation of this study.

The questionnaire respondents for this study comprised two groups. The first sample comprised a select group of financial institutions in the Johannesburg-Pretoria corridor, whilst the second consisted of hand-picked REI4P Independent Power Producers (IPPs) or Sellers. The nominated financial institutions for the study were largely in the Johannesburg-Pretoria corridor for two main reasons: (1) most banks in South Africa are headquartered in this area and head offices normally give the go-ahead for large scale transactions such as those related to the renewable energy sector; and (2) the researcher was also resident in this area during the course of the research.

While the banks could be relatively accessible in theory, this is not always logistically applicable to IPPs, whose headquarters could either be in Gauteng or the Western Cape, while implementing agents are on site, at the various renewable energy plants. Under such conditions, setting up appointments, identifying the most appropriate people to speak to, agreeing on suitable dates, time and venues, etc. and subsequently, conducting face-to-face interviews would have been difficult, costly and time-consuming. Hence, questionnaires proved to be a quick and more cost-effective data-gathering approach in this context.

Since two groups of subjects participated in the study, two separate questionnaires were designed and utilised to gather information. They are attached in Appendix 1 of this thesis. Questionnaire A focused on financial institutions, while Questionnaire B was used to collect data from IPPs. Both questionnaires mainly comprised open-ended questions. This was necessitated by the fact that the study is exploratory in nature and the intention was to ‘mine’ new knowledge that is not readily available in literature and to draw it out from experts and more experienced individuals and entities in the specific field of research. The reason why the close-ended form of enquiry was avoided is that it assumes that the researcher is knowledgeable and is an expert in the field of study in which the research is carried out and can, therefore, design questions that effectively address the need for the study; draw out answers that efficiently answer the research question; and direct the research to the required

outcomes to increase knowledge in the particular discipline. Since the experience of financing community shareholding in renewable energy projects is relatively new in South Africa, the development of knowledge in this area is, correspondingly, in its infancy. Therefore, open-ended questions allowed respondents to speak freely and dig deep into the recesses of their minds in order to contribute to the broadening of knowledge in the finance and renewable energy spheres in the country.

Ritchie and Lewis (2003) define open-ended questions as those which require more than one-word responses. They often entail detailed descriptions that convey opinions, emotions and feelings about a particular subject matter. Such comprehensive responses enrich the information gathered and that is one of the principal factors that prompted the use of open-ended questions in this study. Single-worded questions would have likely dictated a specific direction and focus within the study area; leaving the door wide open for bias, limiting self-expression and compromising richness in the gathered information.

In addition to using the questionnaire as the main data-gathering medium, two semi-structured interviews were held with mining sector experts from the IDC and Sishen Iron Ore Company (SIOC) Community Development Trust, who have some experience in the constitution, management and funding of community equity structures, such as community trusts. One advantage of semi-structured interviews is that it affords respondents self-expression and the free articulation of personal accounts and professional experiences (Burgess, 1982). This facilitates greater flexibility in the research process than that enabled by questionnaires and may permit the cultivation of a lot more data and information.

In defining interviewing Shah (2004) argues that it is a bilateral process, which integrates the subjectivities of the research participants (both interviewer and interviewee) to shape and impact data-gathering and interpretation in a particular way. Lincoln and Guba (1985) (as cited by Shah, 2004) indicate that in this context, objectivity, when defined in terms of neutrality and detachment, is not feasible. Some may consider this a major defect of interviewing, as a qualitative data-gathering approach. However, the outcomes of these interviews were enlightening and enriched the background to the study with regards to the role of community trusts in South Africa and why they have been favoured over and above other community beneficiation structures and schemes, particularly in the mining sector and now increasingly in the renewable energy sphere.

Two telephone interviews were also held. One was convened with an IPP who could not complete the questionnaire due to time constraints, whilst the other was with an independent fund equity investor, who has invested in the community equity schemes of some IPP projects in the REI4P.

3.6. Data analysis

Data analysis is the process of decrypting and decoding the raw and secondary data that is collected from a research project in order to tell the story behind the study (Kawulich, 2004; LeCompte and Schensul, 1999). Kawulich (2004: 96) further elaborates:

> *"Analysing qualitative data typically involves immersing oneself in the data to become familiar with it, then looking for patterns and themes, searching for various relationships between data that help the researchers to understand what they have, then visually displaying the information and writing it up".*

There is a vast array of data analysis techniques that are used by researchers to 'make sense' of and 'unpack' qualitative data. For purposes of this study, only three will be mentioned:

3.6.1. Thematic Content Analysis

According to Anderson (2007: 1) Thematic Content Analysis (TCA) is:

> *"…a descriptive presentation of qualitative data…[wherein] the researcher groups and distils from the texts a list of common themes in order to give expression to the commonality of voices across participants".*

The data may take the form of interview transcripts, questionnaires and other texts that were gathered in the course of the study.

TCA consists of a process of coding the collected data and classifying it into particular themes or patterns and subsequently, interpreting the data (Anderson, 2007). These steps of coding, cataloguing and arranging data into specific categories or themes are crucial because without them, it would not be easy to interpret the data, which would mean that the data would not be replicable and would thus, prove unreliable. Hence, TCA is of great value if the aim is to classify, summarize, quantify and tabulate qualitative data (Krippendorff, 2012; Schreier, 2012).

3.6.2. Grounded Theory

Grounded theory was advanced by Barney Glaser and Anselm Strauss in their 1967 book *The Discovery of Grounded Theory.* In the book, the authors outlined steps to be followed in order to formulate theory from raw, empirical data. It may very well be that grounded theory is the main reason why qualitative research methods have come to be established as valid in applied social research (Thomas and James, 2006). According to Glaser and Strauss (1967) (as cited by Martin and Turner 1986: 141):

> *"Grounded theory is an inductive, theory discovery methodology that allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data".*

A grounded theory approach often commences with the process of data-gathering in the absence of a guiding theory. Subsequently, constant themes that emerge from the observed data are coded and arranged into specific categories using the raw data (Allan, 2003). Up to this point grounded theory appears to be quite similar to TCA, as described above. The distinction between the two techniques becomes apparent where the former then uses this categorisation of data as the foundation for generating new theory. It is in this way that grounded theory is said to be inductive. Whereas, traditional deductive approaches commence with an existing theory and use gathered data to prove or disprove it, grounded theory does the opposite (Allan, 2003).

3.6.3. Cross-Cultural Analysis

Cross-Cultural Analysis uses statistical techniques to make cross-cultural comparisons, which helps uncover elements which are similar and shared among cultures and can lead to the identification of cultural commonalities (Kinzer and Gillies, 2014). The authors further argue:

> *"Cross-cultural analysts create hypotheses and consult data into order to draw statistical correlations about the relationships among certain cultural traits".* (Kinzer and Gillies, 2014)

The approach was founded by E. B. Tylor and L. H. Morgan and was subsequently promoted by G. P. Murdock, "who compiled the work of many ethnographic studies into one database that came to be known as the Human Relation Area Files (HRAF)" (Kinzer and Gillies, 2014).

The TCA approach was adopted to analyse the data gathered during the execution of this research project. The principal reason for this choice was that this study was exploratory. Therefore, it did not seek to generate new theory, as an immediate outcome, as Grounded Theory would dictate. In addition, cross-cultural analysis was irrelevant as the study did not seek to identify nuances that are similar across cultures.

In implementing data analysis for the study, the steps outlined in Table 3.3 below were followed.

Table 3. 3: Steps followed to analyse qualitative data using Thematic Content Analysis
Source: Adapted from Braun and Clarke (2006).

Phase	Description of the process	Result
Familiarization with the data	Read and re-read data in order to become familiar with what the data entails, paying specific attention to patterns that occur and noting down initial ideas/patterns.	Preliminary "start" codes and detailed notes.
Generation of initial codes	Generate the initial codes by identifying where and how patterns occur. This happens through data reduction where the researcher collapses data into labels in order to create categories for more efficient analysis. Data compilation is also completed here. This involves the researcher making inferences about what the codes mean.	Comprehensive codes of how data answers research question(s).
Searching for themes	Collate codes into themes that accurately depict the data. It is important in developing themes that the researcher describes exactly what the themes mean, what they include and exclude.	List of candidate themes for further analysis.
Reviewing themes	Check if the themes make sense and account for all the coded extracts and the entire data set. If the analysis seems incomplete, the researcher needs to go back and find what is missing. Generate a thematic “map” of the analysis.	Coherent recognition of how themes are patterned to tell an accurate story about the data.
Defining and naming categories	Generate clear definitions and names for each theme. Describe which aspects of data are being captured in each theme, and what is interesting about the themes.	A comprehensive analysis of what the themes contribute to understanding the data.
Producing final report	Decide which themes make meaningful contributions to understanding what is going on within the data. Researchers should also conduct verification of the data to check if their description is an accurate representation.	Description of the findings

3.7. Research Assumptions and Limitations

This research was based on the assumption that there will be a funding constraint for financing the constitution and establishment of local community ownership arrangements for IPP projects, going forward, due to an increase in the demand for funding for the IPP projects

themselves and competition from other IPP programmes, *viz.* the Baseload IPP Programme, the Medium Term Risk Mitigation Programme and the Small IPP Programme, in addition to the REI4P.

The study departs from the assumption that community equity ownership *will* continue and will be a requirement in the subsequent IPP Programmes cited above, as well, just as it is in the REI4P. Indeed, this may change as developments and requirements around each Programme are varied by Government. Nonetheless, the study does not engage the value judgement or 'moral' question of whether or not the current model of community shareholding in project companies is good or indeed, beneficial to communities, thus eliminating the question of whether or not it *should* continue from the scope of the research.

The form that community equity ownership should take going forward has also not been accommodated in the study because the research commences from a position that seeks to deal with the current reality as given and to ease funding challenges around that. It does not aim to address the question of the efficacy of the current model of community shareholding as adopted.

Undoubtedly, these two questions ought to be investigated and debated further with a view of meeting the goal of community empowerment, whilst addressing any challenges associated with the selected mode of delivery. However, they are not part of this study and may be addressed in subsequent studies.

The major limitation the research encountered is the confidentiality with which the IPP related data must be treated as the commercial integrity of IPP companies must be safeguarded and protected at all times. Another challenge experienced during the study had to do with poor responses from respondents. For example, of the seven (7) financial institutions approached, only five (5) completed the questionnaires, some after relentless pursuit by the author. The same is true with the response rate from the IPPs. Whilst one expected them to be more forthcoming, since the research gave them room for self-expression and availed them an opportunity to indicate how they would wish to see the community equity ownership feature of the REI4P change going forward, some did not respond even after several follow-up telephone calls and e-mail reminders.

Finally, the limitation of funds and time prevented the author from visiting IPPs either at the renewable energy sites or at their headquarters, in order to engage with them face-to-face and

on a one-to-one basis to adequately incorporate and assimilate the issues and challenges that they face on the ground with regards to funding community equity ownership and thus, get a full picture of the key impediments and how they can be addressed.

Chapter 4: Findings and Discussion

4.1. Introduction

The main objective of this study was to identify different options or alternatives through which to finance Community Equity Ownership (CEO) within the framework of the Renewable Energy Independent Power Producer Procurement Programme (REI4P). This stemmed from the realization that as new Independent Power Producer (IPP) Programmes emerged, through the launch of the Baseload IPP Programme and the Medium Term Risk Mitigation Project, the demand for financing CEO would likely increase at a higher rate than the available supply. In light of this, what other sources of finance can be identified to bridge this funding gap and ensure that CEO continues to be funded in the remaining Bidding Rounds of the REI4P, as well as within the context of the new IPP Programmes? This Chapter presents the results of the research, which sought to address this question.

The approach used to research this question was mainly exploratory due to the infancy of the renewable energy sector in South Africa and the bold, daring and atypical features that the REI4P assumed right from the start. The study was premised on the contention that Social License to Operate (SLO) is critical for reducing or eliminating socio-political risk to the REI4P. Closely linked to this, is the claim that CEO, together with the Socio-Economic Development (SED) and Enterprise Development (ED) contributions of IPPs, mandated by the REI4P, should constitute a strong foundation for REI4P projects to enjoy SLO in the communities within which they are located. Among the many risks that financiers should evaluate in undertaking due diligence for determining whether or not they will fund CEO, socio-political risk and its impact on SLO, ought to be one of the most important for the country.

4.2. Experiences of financiers in providing funds for Community Equity Ownership in the REI4P

Figure 4.1 below indicates that four out of the five financial institutions surveyed for the study stated that they had funded community equity ownership at one point or another since the commencement of the REI4P. That is, they had, at one time or another extended a loan for the purpose of enabling communities to become shareholders in project companies that are participating in the REI4P. Although it may appear that a high number of respondents

indicated that they had supported the financing of CEO at some point, three of these financial institutions are, in fact, DFIs, which are compelled by the development mandate that Government assigns to them to do so. This essentially leaves only one independent, private sector financial institution that had actually voluntarily extended a financial loan for the purpose of community equity investment in the REI4P; out of all the five (5) financial institutions surveyed. This certainly underscores the contention that there is limited funding for community equity investment in project companies that are participating in the REI4P.

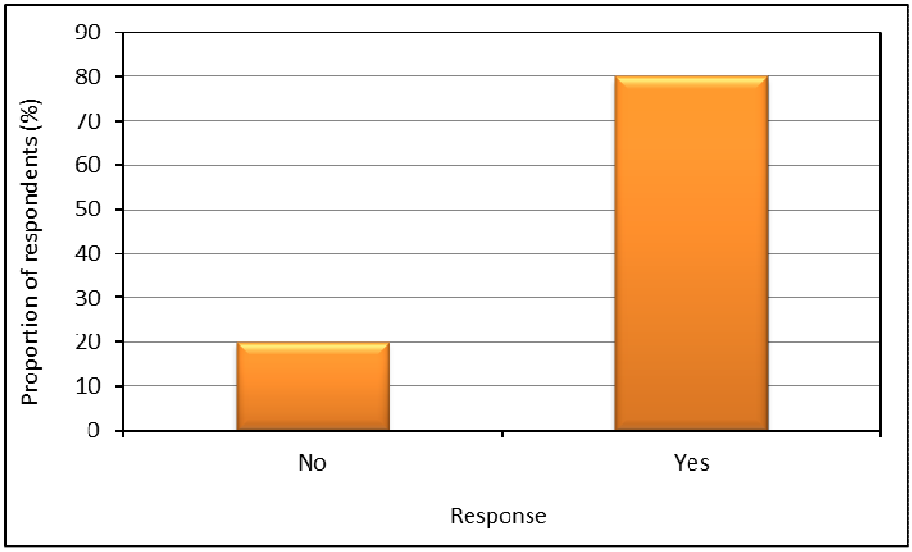

Figure 4. 1: Percentage of surveyed financial institutions that have financed Community Equity Ownership in the REI4P.

Only Institution F4 indicated that it had not supported the funding of community equity ownership and this was due to a limited mandate that focused only on debt-type instruments, including senior and mezzanine debt, but not equity. The current stance that the bank takes towards this type of funding is that it is too risky and hence, it is not supported.

Institution F5 only recently began funding community equity ownership in REI4P project companies. The reason for this delayed start is that the bank requires more stringent security than that demanded by the DFIs. More often than not, project developers, particularly, those of South African origin are not able to proffer the required security. However, if the project sponsors are financially sound; have a very good track record of project sponsorship; possess a strong relationship with the bank and can provide the required security on behalf of the BBBEE entity (usually a community trust); the bank may consider funding CEO.

Of significance is that although financing community shareholding in REI4P project companies has been predominantly supported by the three main DFIs, namely, IDC, DBSA and PIC; commercial banks are now increasingly getting involved and participating in financing it as well. The main reasons for this are explored in the sections of the thesis that follow. However, without meaning to be pre-emptive, it is important to indicate that IPPs pointed out that, of late, the terms and conditions on which finance has been offered by DFIs leave a lot to be desired. The key 'take home' message here is that, while commercial banks have begun financing the shareholding of communities in REI4P project companies, there is still scope for them to hasten and increasingly continue doing so. Thankfully, some of them are starting to realise this and are taking advantage of it.

4.3. Factors that drive financiers to fund Community Equity Ownership in the REI4P

Why are the DFIs and commercial banks that are currently funding community equity ownership doing so? What is their motivation? By virtue of being development agencies of the State, the common denominator that the DFIs share in their support of CEO is the obligation to support the goals and programmes of Government. All but one response offered by the financial institutions on why they fund CEO related to the compulsion to support Government objectives. In part, this is due to the overwhelming majority of DFIs in the sample of financial institutions surveyed for this study.

The actual reasons given in the questionnaire responses include the following:

i. To support the development of a new industry in the market;
ii. DFIs are able to take more risk by investing in new industries than commercial banks;
iii. To support Government objectives of stabilising energy supply in the country;
iv. To contribute to the reduction of CO_2 emissions in South Africa;
v. To facilitate energy security;
vi. To empower communities to own equity in new industry;
vii. Dividends to be used to reduce poverty and improve socio-economic status of the poor;
viii. To promote and foster economic development;
ix. To support BBBEE and community development;
x. To avail funds for equity contributions to communities;

xi. To support Government-initiated infrastructural programmes and development in South Africa and Africa;
xii. To provide support to energy as a priority sector; and
xiii. Sponsors provided relevant security on behalf of BBBEE entities.

It must be noted that, as the nature of open-ended responses goes, more often than not, each respondent offered more than one answer, which is why the number of responses may not be equal to, but rather more than, the number of respondents. This is true for subsequent sections of this chapter as well.

Since the motivations for supporting CEO are so varied, it was not possible to present them pictorially in either a Table or Chart. Nonetheless, a critical observation made from the above is that in order to avoid sabotaging itself, Government compelled the DFIs to fund community equity ownership so as to fulfil the BBBEE and rural development mandates so inherent in the REI4P and other State programmes and projects. Had the DFIs not funded community shareholding in REI4P project companies, while the commercial banks and other private financial institutions maintained distance from it as a consequence of risk aversion, the entire community equity shareholding obligation in the Programme could have collapsed, forcing Government to either withdraw or amend it to fit in with emerging circumstances and reality. Indeed, the absence of CEO would likely negatively affect and reduce SLO, thus increasing socio-political risk of REI4P projects and poor Community-IPP relations at the local level.

Interestingly, while some commercial banks are starting to venture into financing the shareholding of beneficiary communities in REI4P project companies, there are still high levels of risk aversion and discomfort in providing such finance. To address this, most survey respondents call for the need for guarantees that can most suitably be provided by Government on behalf of communities in order to facilitate access to funding offered by commercial banks more cheaply than is currently the case.

Undoubtedly, not all project partners can assume the position of guarantor on behalf of communities. First, because they may not have the resources to do so; and second, they may be unwilling to do so because their attitude would likely be that as a shareholder, communities, regardless of their socio-economic status, ‘should carry their own weight’ and not over-burden the others with whatever encumbrances they may be facing. In other words,

the need for communities to own a stake in the project company and the accompanying need to facilitate that is not the primary responsibility of the other shareholders but of Government. Therefore, Government is the best qualified to carry the responsibility of guarantor on behalf of communities in financial transactions that seek to facilitate their shareholding in the REI4P project companies.

4.4. Funding instruments commonly used by funders to finance Community Equity Ownership in the REI4P

Figure 4.2 indicates that 60% of the financial institutions that were surveyed stated that they relied on commercial loans to finance community equity ownership applications. Only Institution F1 indicated that a Special BBBEE Fund had been established to facilitate community equity ownership funding, whilst Institution F4 pointed to the inapplicability of the question due to the fact that the respondent institution did not finance community equity shareholding at all.

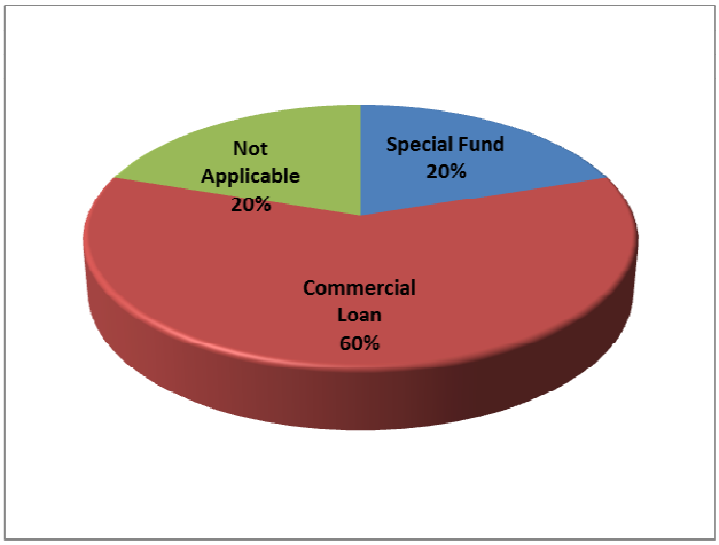

Figure 4. 2: Commonly used financing sources to fund community equity shareholding in REI4P project companies.

The significance of this is that while DFIs may be available to extend funds to finance equity shareholding in project companies to the various beneficiary communities, they do so via similar terms and conditions as those offered by other commercial and private lending institutions available in the market. In other words, DFIs have increasingly relied upon more commercial lending terms rather than preferential conditions as the Bidding Windows have

evolved from the first to the fourth, despite their development mandate or the socio-economic status of their clients, in this case, disadvantaged communities in rural South Africa. It would seem that not even the fact that the REI4P is currently one of the flagship infrastructural programmes of the Government inspires grant and/or preferential terms for poor communities.

Essentially, what this means is that, on average, the cost of finance for funding the shareholding of communities in REI4P project companies is similar in the market, whether one approaches a DFI or a commercial bank. In fact, the surveyed IPPs complained that the financing terms and conditions of DFIs have proven to be more expensive and onerous than those offered by some commercial banks. This puts to rest the widely held notion that DFIs offer more 'friendly' financing terms and conditions than commercial banks.

Of greater significance is the bearing that this high cost of finance has on the developmental goal of instituting and introducing community shareholding in the first place. Because the loan for funding community equity ownership has to be paid and settled first, before any dividends can be realised by the community, what this implies is that the dividend flows that should accrue to communities for their development, are back-ended and are only realised after the loans have been fully repaid, which can take anywhere between 8 and 12 years from project commencement (DoE, 2014b).

In an effort to address this, some DFIs apply either an 80:20 or a 90:10 principle in terms of the dividends flow mechanism agreed between themselves and local communities at each distribution payment date (DoE, 2014b). Local communities are entitled to approximately 20% or 10% of the dividend amount at each payment date, which can be used to initiate the implementation of socio-economic development programmes (DoE, 2014b). However, this has proven to be inadequate to launch community projects that bring about significant developmental gains in communities.

This delayed beneficiation has the potential to disenfranchise communities and erode their trust in the REI4P project companies. Due to lack of awareness and understanding of this background, communities may eventually tire of the hope of ever seeing the dividends from their share in project companies and may, as a result, grow impatient to see tangible benefits accrue to them. In turn, this may compromise the socio-political stability that project companies could enjoy in the communities in which they operate and may likely erode their

SLO, as reflected in the second chapter of this thesis. Consequently, both the financial institutions and IPPs surveyed in this study propose that a mixed basket of commercial loans and outright grants be considered in the funding arrangements offered by the market to communities in the bid to promote BBBEE and rural development via the REI4P. This finding is corroborated in the Scottish experience of supporting community investment in commercial energy schemes in which the following finding to a study was recorded:

> *"Some community representatives were worried that developers were only pursuing community investment to further their commercial interests, and a requirement for communities to invest up front without immediate returns was identified as a further source of distrust."*
> Haggett *et al.* (2014b: 8)

This mistrust is clearly founded on a lack of understanding of what community investment in renewable energy project companies actually entails on the part of the community and a failure to anticipate likely community expectations, interpretations and responses to potential revenue flows, via ownership, on the part of the developer.

4.5. Perceived risks of funding community shareholding in REI4P Project Companies

The matter of the perceived risks associated with funding CEO in the REI4P is primary to this study because it represents one of the subsidiary questions of the research. To demonstrate that this question was addressed in the study, it is important to indicate that it formed one of the critical questions put to financial institutions in the questionnaire survey. Financiers perceive funding CEO in the REI4P as a high risk and low security type of investment. Therefore, they are not at ease with funding it. All responses but one confirmed this. Specific responses to this question included the following:

i. Local community trusts often do not have strong balance sheets or access to the guarantees required by banks in order to provide such funding;
ii. Lack of access to guarantees required by banks;
iii. The major risk is that, in the event of project default, the bank will not have access to sufficient security to cover the outstanding debt;
iv. Furthermore, following Basel-regulations pricing of such funding becomes prohibitively expensive where strong enough security cannot be provided;

v. Funding of this type is considered equity risk and therefore, lies outside the scope of funding by the bank;
vi. Risk borne out of exposure to equity and therefore, the flow back of funds owed to the funder, secondary to the debt within the project company;
vii. Insufficient cash flow to repay the debt. Repayment is from dividend flows and since community ownership in most projects is low (the requirement is a minimum of 2.5% to 5%), not enough dividend cash flow is immediately available to service the debt;
viii. Lack of or no dividend flows to communities in the early years of renewable project implementation; and
ix. Lack of guidelines of how to structure, fund, govern, identify beneficiaries of, and deliver envisaged benefits through, monitor and evaluate community trusts.

From the above it is very clear that the majority of financial institutions surveyed are still quite hesitant and disinclined to lend money to fund community shareholding in project companies participating in the renewable energy programme of South Africa. This is mainly a consequence of lack of security or collateral and guarantees that, should dividend flows not materialise, financial institutions would have some recourse and avenue to recoup the monies they have advanced. As indicated above, this, indeed, lends credence to the need for Government to step in and provide the necessary guarantees in order to inspire confidence in the financial sector that there is some backstopping and contingency arrangement in place, in addition to the Power Purchasing Agreements (PPAs), to ensure that the renewable energy projects are sufficiently viable to generate the anticipated dividend flows to enable communities to repay their loans. The longer this need remains unmet, the higher the likelihood that available funding for community shareholding will be increasingly constrained.

One of the main reasons why the cost of financing community equity ownership in the REI4P project companies is so high, even with DFIs, is, in part, due to the high level of risk associated with it and the fact that communities often lack the required collateral to secure the loans.

4.6. Untapped funding sources to finance Community Equity Ownership in the REI4P

Yet again, the issue of untapped funding sources for CEO in the REI4P constitutes one of the subsidiary questions raised by the study and is thus, of paramount importance. Indeed, this issue was also incorporated in the questionnaire survey and responses included the following:

i. Life companies such as Old Mutual, Liberty, etc. although they too may have stringent security requirements;
ii. Vendor support either through direct funding or free carry arrangements (i.e. supported by other shareholders in the project structure) was a popular suggestion;
iii. Use of communal land as equity into the project;
iv. Use Government Pension Fund to warehouse shares on behalf of communities;
v. Government may support DFIs to provide additional funding;
vi. Identify programmes in the various Government Departments such as the Department of Rural Development that can be used to leverage funding and support for community equity shareholding in the renewable energy companies of the REI4P; and
vii. Create a conducive environment in which commercial banks can more readily fund community equity ownership.

One of the oldest life assurance companies in South Africa, with a strong market presence has been, together with the DFIs, one of the key financiers of community equity in the REI4P thus far. Indeed, the other life assurance companies can be encouraged to 'take a leaf' from that and also participate in this important endeavour.

Vendor support is seen as an option that holds considerable promise as an alternative funding arrangement for community equity shareholding by most financiers. Indeed, some project companies have provided this type of support for community equity ownership, either in the form of shareholder loans, free-carry or guarantees for bank-funded loans. Despite the fact that vendor support has emerged as one of the potential sources of widening the pool of resources available for funding community shareholding in REI4P project companies, the message coming out from survey respondents, both financiers and IPPs, is that there should be more vendor support made available in order to facilitate the funding of CEO. However, this may need to be balanced with the issue highlighted above that there may be a view among other shareholders that each shareholder needs to 'pull its own weight' and take responsibility for funding its own investment and shareholding in the project companies.

Also, some of the other shareholders may, themselves, not have the necessary funding to finance even their own investment in these companies, let alone that of the community.

Use of communal land as equity may also be vital in the quest to empower communities to bring something to the table and address the concern of lack of security or collateral. In South Africa, the law permits individuals to own land or property jointly as a group by constituting a Communal Property Association (CPA) (ETU, 2015). What remains unclear is whether or not it would allow them to use such communal land as security for loan applications, on the one hand, and/or as capital to facilitate community investment in project companies that are participating in commercial resource development infrastructural programmes such as the REI4P, on the other.

'Equity warehousing' refers to a process in which an entity progressively acquires a holding of equity in another entity it aims to buy-out at a later stage (Business Dictionary, 2015). The way it works is that the company that is steadily building up the shareholding, in this instance, the Government Pension Fund, would retain the equity in the REI4P project companies in the name of the various community ownership structures, such as the community trusts. In other words, the Government Pension Fund would buy the shares in the project companies on behalf of communities and the assumption is that it would, in turn, require repayment in more favourable terms. Indeed, this may require further investigation before it can be widely propagated.

One cannot discard the potential of other Government programmes in the various Departments in contributing to the funding of community shareholding in the REI4P. For instance, the South African Renewables Initiative (SARi) is one of the agencies that may be approached for assistance. SARi seeks to identify both local and external funding sources and renewable energy sector expertise to support the implementation of the REI4P. SARi is a component of the Industrial Policy Action Plan (IPAP) and is also a key component of the National Climate Change Response Strategy of South Africa (ECPRD, 2011).

In spite of this, other support schemes, including investment and other subsidies, carbon emissions incentives such as the certified emissions reduction exemption (KPMG, 2013) that are offered by Government through the Department of Trade and Industry (DTI) do not appear suitable for funding community equity ownership as it is currently structured within the framework of the REI4P.

Furthermore, the Land Redistribution for Agricultural Development Grant (LRADG), which is one of several grant schemes offered by the Department of Rural Development and Land Reform (DRDLR), is also not ideal for financing the REI4P community equity ownership mandate because it aims:

> *"…to improve land tenure security and to extend property ownership and/or access to productive resources to black South African citizens." (DRDLR 2015: 3)*

On the whole, the kind of resources required for community equity ownership in REI4P projects would likely hastily dry up the coffers of those Departments and programmes that attempted to partake in it due to their significance. What is needed is a unique funding solution either in the form of a large revolving fund supported by Government or donor agencies and/or funding guarantee arrangements that would off-set the current funding gap quite significantly.

The alternative funding sources proposed by IPPs are very similar to those offered by financial institutions. They include the following:

i. Issue a bond to obtain cheaper capital;
ii. Offer 0% equity shareholding and 2-5% revenue contribution to communities;
iii. Enlist the support of other Government funding agencies e.g. South African Micro-Finance Apex Fund (SAMAF);
iv. Facilitate greater involvement of sponsors to provide guarantees to commercial banks toward loans for funding community equity ownership;
v. Mobilise and facilitate greater involvement and participation of commercial banks in funding community equity ownership;
vi. Mobilise and facilitate the involvement of international DFIs to also finance community equity ownership;
vii. Mobilise climate change finance initiatives to support community equity ownership;
viii. Approach multilateral and unilateral donors to fund community equity ownership;
ix. Approach commercial banks for funding community equity ownership through mezzanine finance; and
x. The DoE should engage large international donors to secure grant funding.

From the above, recurring themes include abolishing community equity ownership in the REI4P; greater involvement of commercial banks in funding community equity ownership; mobilising international donor finance for the establishment of a grant scheme; and identifying suitable guarantors to facilitate the securing of commercial bank loans for funding community equity ownership.

4.7. Ideal funding sources for Community Equity Ownership in REI4P project companies

The study found that 'ideal' sources for funding community equity ownership in REI4P project companies would include the following:

i. Government must establish an Energy Fund that would be used, in part, to fund either fully fledged grants or partial grants for financing community equity ownership of the REI4P project companies;
ii. Evaluate the variety of funding schemes in the various Government Departments and where they are found to be not viable, reduce the funding and redirect it to the Energy Fund;
iii. DFIs should be further authorised to offer debt instruments at even lower lending rates than is currently the case;
iv. Project bond issuance, allowing communities to buy a stake by using Enterprise Development and Socio-Economic Development (SED) proceeds. To this end, ED/SED proceeds would be increased slightly to cater for community buy-back structures; and
v. Unequivocal backing from Government for all the community equity obligations and liabilities.

While all the suggestions presented above are useful, the one which relates to using SED/ED contributions to buy shares in project companies stands out. The danger with this proposal is that it has the potential to diminish the mandate of project companies to contribute to the socio-economic upliftment of host communities, from three broad categories, namely, SED, ED and local community ownership, to one, that of local community ownership only. It is unlikely that such reduction matches the aims of the DoE in coming up with the three local development components in the first place.

4.8. Challenges associated with accessing funding

The study identified the following challenges experienced by IPPs in accessing finance for funding CEO in the REI4P:

i. There are limited institutions that provide financing for community equity ownership;
ii. Unfavourable and uncompetitive commercial terms in a context of competitive bidding;
iii. DFIs no longer wish to offer competitive 3rd party BBBEE/community funding;
iv. Getting funding terms that still make the project viable in terms of tariff, whilst making commercial sense to the funder;
v. Funding agencies have a limited approach to the type of entity they are willing to fund for community equity ownership. The community trusts that both the IDC and the DBSA are willing to fund are relatively archaic structures from the perspective of good development practice;
vi. Securing funding for the community equity ownership was a challenge in Round 4, particularly because we wanted to allocate a big stake of the project to local communities. We used to work with the IDC in Rounds 2 and 3, but their conditions and terms in Round 4 were not competitive enough in a highly competitive environment. They offered to fund only a portion of the local community equity we wanted to allocate and at very expensive terms and conditions.
vii. The competitive nature of Round 4 meant that the proposed funding terms received from organisations looking to provide funding for community ownership were not viable. The DFIs in the market have placed commercial return requirements on their community equity funding for the REI4P. Rather than the emphasis being on how as DFIs they can fulfil their role of advancing developmental aspects of the Programme, the emphasis has rather been on how they can compete with the other commercial banks in the South African market. Additionally, these organisations also place additional onerous constraints on the project, making the project uncompetitive, for example, funding equity on a P90[1] basis as opposed to a P50 basis, looking for

[1] P50 is a term that is used in the financial models of bidders to denote the average forecast annual energy sales at point of delivery, depending on resource availability, which is used by the sponsors (DoE, 2014e). P50 would assume, for instance, that the wind would blow 50% of the time for a wind energy project. P90 is a term that also features in the financial models of prospective independent renewable energy producers and refers to the average forecast annual energy sales used by lenders (bankers' case) (DoE, 2014e). Whilst P50 is often founded on more optimistic assumptions, P90 is usually determined on more conservative presumptions. For instance, it would assume that the sun will not shine 90% of the time for a PV project.

additional security and guarantees, etc. In some instances, there are requirements for the local community to put up a portion of the equity – not only is this impractical but also unfeasible.

The assumption on which this study is based that there a limited number of institutions that offer finance for community shareholding in REI4P project companies and therefore, not only is funding limited for existing projects, it will increasingly become so as new IPP programmes are implemented is confirmed by the findings of this study, as reflected above.

In order to facilitate better insight and to visualise the extent that onerous financing terms and conditions present a challenge to IPPs vis-à-vis other difficulties, the responses presented above are also presented pictorially through Figure 4.3 below. The figure indicates that 75% of challenges experienced by respondent IPPs relate to onerous and uncompetitive funding terms and conditions offered by financial institutions, particularly, DFIs.

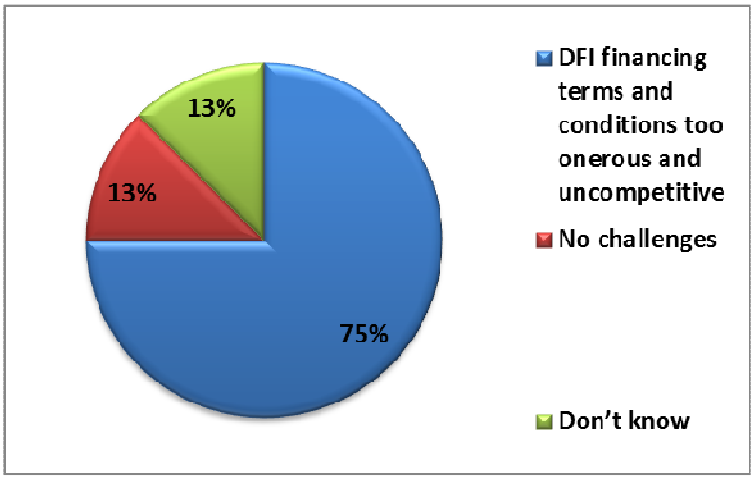

Figure 4. 3: Challenges experienced by IPPs to access funding for community shareholding in REI4P project companies.

The responses highlighted above present a number of key messages. First, there are limited sources of funding community shareholding in REI4P project companies in the market. Closely linked to that, one notes that only a few IPPs are able to provide vendor support in the form of free-carry or shareholder loans for community equity ownership in project

companies. It is telling that only one out of ten surveyed IPPs was in a position to do so in previous bidding rounds.

As a consequence of the above, it is clear that there is a 'hunger' or 'appetite' for funding community shareholding in REI4P projects that the market has, so far, failed to satiate or satisfy. In turn, IPPs are finding that DFIs, who were traditionally relied upon to finance this portion of debt, are offering very expensive financing terms. This is unsurprising as it is a basic economics principle that where there is increased demand for a product or service and its supply is low, prices are bound to rise. Undoubtedly, this is one of the reasons why the cost of financing in increasing.

What is deeply unsettling are the onerous conditions that DFIs are placing on borrowers, which include restricting the model of community shareholding and representation only to community trusts. The need for redress to this issue arises from the fact that the Implementation Agreement does not prescribe a specific community equity ownership and representative model that IPPs should adopt. This means that they are free to nominate whichever model suites their unique circumstances, be it a community trust; a Community Property Association (CPA); a Non-Governmental Organisation (NGO); or any other platform that facilitates the full adherence to the terms of the Implementation Agreement with regard to local community ownership obligations.

To have other 'agencies' of the State then 'dictate' the form of community ownership model and representation that IPPs must utilise, as part of the terms and conditions for providing funding for community equity ownership, is not only incorrect, but it is unduly burdensome on IPPs in view of the challenges that community trusts present and their failure to bring about significant and meaningful developmental gains and outcomes.

All the above indicates that there is scope for commercial banks and private equity entities to structure unique deals directed at funding community shareholding in REI4P projects. However, they too, may not be able to absorb the current and anticipated demand for this type of funding in light of the additional IPP programmes to be launched through the Baseload IPP Programme and the Medium Term Risk Mitigation Project.

4.9. Efforts to facilitate access to funding for community shareholding in REI4P companies

Efforts made by IPPs who participated in the survey to address the difficulties they encountered in identifying funding sources for community shareholding in REI4P companies include entering into vendor financing agreements with other shareholders; approaching commercial banks who offered better financing terms than DFIs; developing an alternative approach which builds on a model of real ownership at the community level; and funding the community equity component of debt via project sponsor donations or loans.

The vast majority of respondents subsequently relied on commercial bank loans to fund community equity ownership, when they ran into difficulties with DFI funding as reflected by Figure 4.4 below. Some of the IPPs had to 'sweeten' the deal with commercial banks by proffering parent company guarantees and/or using a different funding structure such as a mezzanine loan as opposed to a direct loan for the community via preference shares.

These outcomes indicate that although commercial bank loans are increasingly playing a very crucial role in 'rescuing' community ownership arrangements when they falter with DFIs, there is still a need for commercial banks to play a greater role in providing funding for community equity ownership in REI4P projects. This would likely improve competition for funds and ultimately reduce the cost of funding as the renewable energy industry expands and becomes a key contributor to economic growth and stability in the country.

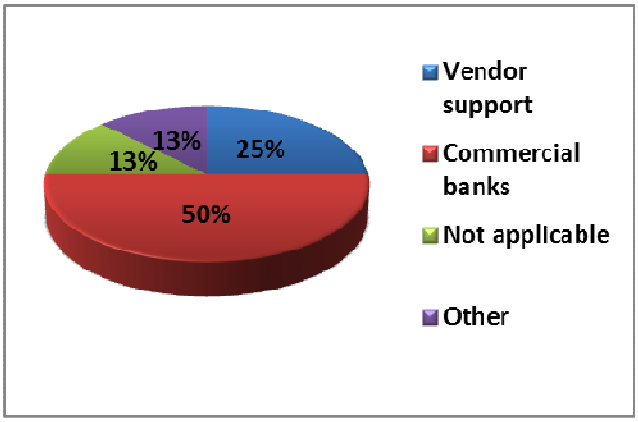

Figure 4. 4: Alternative funding sources currently used by IPPs for financing Community Equity Ownership in REI4P project companies.

4.10. Current Funding Arrangements – What are the issues?

Challenges experienced by IPPs with regard to existing community equity ownership funding arrangements include long vesting periods and the high cost of borrowing; difficulties associated with accessing and obtaining funding for BBBEE developers; long loan repayment terms before communities realise benefits of being equity shareholders in the REI4P projects; changing the community structures in order to maximise the developmental impact of community equity ownership can make bid levels more expensive, making it difficult to compete with more corporately focused bids; and the actual flow of funds to the communities is very low in the early years due to servicing the equity funding mechanism.

The matter of the long loan repayment periods, resulting in delayed socio-economic benefits for communities was also highlighted by financial institutions, which further pointed to how it has and can threaten the SLO of project companies in the communities in which they generate renewable energy.

4.11. What Government can do to facilitate ease of access to funds

Below is a summary of what the fifteen (15) survey respondents proposed that the DoE should do in order to facilitate access to funds to support CEO in the REI4P and the IPP Programmes that are in the pipeline. These are the actual responses provided in the questionnaires:

i. Establish a grant programme or a low cost financing mechanism;
ii. Remove community equity ownership and instead introduce a royalty type tax on revenues, one which will flow directly to community trusts. This should be done in a context where Government supervision of law enforcement is stringent so that communities do not risk losing revenues to unscrupulous trustees;
iii. Fund research on alternative community equity structures and their developmental impact;
iv. Reward those bids that have genuine developmental impact and focus;
v. Create separate bid qualifying streams for bids with very high genuine community ownership e.g. greater than 30%;
vi. Local DFIs should have a ‘sole’/clear mandate in funding community equity ownership;
vii. Train IPPs on how to access funding from financial institutions;

viii. Conduct road shows on the REI4P to promote empowerment participation;

ix. Government should put up a guarantee for community trust funding;

x. Establish a fund that gives trusts/communities 10-20% of funding and 80-90% is provided by financial institutions;

xi. Abandon CEO as its benefit is very much delayed and instead opt for a percentage of revenue as a source of income;

xii. Remove CEO from REI4P and replace with an above the line tax similar to the 1% development fee which is contributed to a community fund;

xiii. Change the requirements so that project does not bear cost during bidding phase but adjust the tariff to include an amount for the community;

xiv. Establish a separate fund to augment the DFIs' and commercial banks' funding of CEO;

xv. Emulate the funding models used in other countries e.g. community-driven renewable energy in the United Kingdom;

xvi. Enhance Government support for CEO funding;

xvii. Provide additional support in the structure from DoE and the DFIs;

xviii. Enhance collaboration between DoE, communities and investors (funding institutions); and

xix. Explore other alternative funding mechanisms other than vanilla project finance loan structures.

xx. Engage DFIs to offer more competitive funding terms (taking a developmental view on their investment), while placing no additional constraints on projects;

xxi. Community equity structures should lead to genuine developmental impact by abandoning community trust for structures which advance 'real ownership' that leads to real empowerment of low income households;

xxii. The DoE must oversee a separately managed fund of donor funds for real community empowerment deals;

xxiii. Government should facilitate better awareness of how REI4P and future IPP programmes will work and requirements for local empowerment and participation;

xxiv. Government should create energy funds with long term tenures and realistic pricing mechanisms;

xxv. DoE should engage the Ministry of Small Business to open up funding for community trusts; and

xxvi. Government may need to consider structural changes and innovative funding mechanisms, as well as consider mechanisms for supporting subsidised interest rates for community funding.

Recurring themes include the establishment of a Government and/or donor supported grant programme and the intervention of Government as guarantor in the funding arrangements that relate to community equity ownership in REI4P project companies. Whilst at least three IPPs proposed the abandonment of community equity ownership in REI4P project companies; one advocated an increase of the community stake in project companies (in a different section of the thesis), while one financial institution also proposed an increase in the community stake.

Of interest is the one suggestion from an IPP that Government should consider investigating alternative community ownership models to replace the community trust, as the latter has proven unsuccessful in bringing about optimum developmental gains. Indeed, this seems to be a more prudent recommendation than complete abandonment of community equity ownership, which also encompasses the BBBEE mandate of the REI4P. Would abandoning community equity ownership for a 'royalty type tax' on revenues or 'above the line tax similar to the 1% development fee' that flow directly to communities then not be 'throwing the baby out with the bath water'? What IPPs seem to overlook is that the SED/ED contributions already constitute the 'royalty type tax' and 'above the line tax' suggested. One of the unique features of community equity ownership is its fulfilment of Section 2 (c) to (e) of the BBBEE Act 53 of 2003, as discussed in Chapter 2 of this report. These provisions of the Act state that its objectives include:

- *"increasing the extent to which communities, workers, cooperatives and other collective enterprises own and manage existing and new enterprises and increasing their access to economic activities, infrastructure and skills training;*
- *promoting investment programmes that lead to broad-based and meaningful participation in the economy by black people in order to achieve sustainable development and general prosperity;*
- *empowering rural and local communities by enabling access to economic activities, land, infrastructure, ownership and skills".*

(DTI 2003: 4-6).

In what way would a 'royalty type tax' and/or an 'above the line tax' fulfil these objectives within the framework of the REI4P? What is required might very well be the abandonment of community trusts, whilst maintaining community equity ownership, and identifying more

appropriate, effective, transparent and more accountable governance structures to oversee community equity ownership on behalf of beneficiaries, with a view to ensure that the dividend flows are not used for corruption and self-aggrandisement, but instead to bring about genuine and tangible developmental gains to the communities for which they are intended.

Clearly, there is scope for Government to play a greater role in removing the bottlenecks that present when IPPs attempt to implement the local community ownership obligation of the REI4P. Suggestions include mobilising donor funding for the establishment of a grant scheme and doing more to build confidence and security in the country's financial sector that lending money for community equity ownership, although seemingly risky, is a worthwhile cause both in terms of loan repayments and developmental impetus.

4.12. Lessons learnt by surveyed financial institutions

The financial institutions which participated in the study shared their experiences on financing community shareholding in the REI4P projects as follows:

i. Community shareholding in REI4P project companies should be funded in part from a Government and/or donor grant and in part from loans offered by financial institutions with commercial terms. Relying only on commercial bank loans presents challenges of delaying the delivery and implementation of the community development mandate for which community shareholding is instituted in the first place. The grant portion may facilitate that communities start earning dividends from the early years of operation of the project companies, rather than waiting for periods ranging from 8 to 12 years;
ii. Collaboration between the project company, lenders and the community is critical;
iii. Community trust deeds must be standardised;
iv. Early engagement of the community is vital to avoid social risk to the project;
v. Address community expectations early on, as the project implementation commences;
vi. There should be ongoing engagement with the community during both the construction and the Operations Measurement Period (OMP);
vii. There is a mismatch between empowerment as codified in the BBBEEE and the commercial terms that govern the funded equity contribution. More work has to be put into developing a framework that will assist with empowerment (ensuring that

communities get notable financial returns as well as development of surrounding infrastructure) whilst meeting the commercial terms by the funders;

viii. The DoE and Government must make their objective for CEO clear from the very onset and give better guidance on community issues;

ix. The DoE has neglected the interests of broad based entities by putting a very low target of 2.5% to 5% of community shareholding in project companies. This type of shareholding may not address the needs of the targeted communities in view of the fact that they are faced with what often appears as insurmountable socio-economic challenges including high rates of poverty, unemployment , health, alcoholism, drug abuse, etc.; and

x. Funding community shareholding in REI4P project companies is challenging.

In general, the lessons shared by financial institutions point to how the high cost of financing community shareholding in REI4P project companies and the onerous terms and conditions of financing have negatively impacted the delivery of socio-economic rewards that community shareholding was expected to cultivate, in that they have led to significant delays in dividend flows, which ought to be used for community development projects and programmes.

The mere presence of the renewable energy project companies in communities creates expectations of job opportunities in the minds of community members. Add to these expectations the possibility of further beneficiation via dividend flows from community shareholding and the result is 'fever-pitch' anticipation from community members for radical transformation of lifestyles, living conditions and socio-economic status. If all these considerations are viewed against the background and within the context of a society that has suffered injustices of inequality under the apartheid regime and consequently, one which has been 'hand-held' by a developmental State that has imbued communities with social grants and other benefits to make up for past discriminations, the result is a society with a culture of entitlement and undertones of residual anger.

When confronted with delays in delivering the anticipated social benefits as a result of the protracted dividend flows, it can easily be expected that deep mistrust and anger will manifest in confrontations between members of the community and REI4P project companies. This includes blockades to renewable energy plants, through which community members demand

'their rights' to employment; small business appointments in the tenders offered by REI4P project companies; general access to and beneficiation from project companies, which some communities have claimed they 'own'; and involvement in the governance of community trusts and the management of anticipated dividend flows. These are some of the actual experiences of the IPPs in communities. The issue of mistrust is also corroborated by the findings in the Scottish experience shared in the report by Haggett *et al.* (2014a) and extensively cited in this thesis.

The key message emanating from this is that the high cost of financing community shareholding and the onerous financing terms and conditions offered by financial institutions, including DFIs, increases the socio-political risk to which the REI4P projects are exposed and threatens the Social License to Operate (SLO) of REI4P project companies in the communities in which they function. In other words, community equity ownership constitutes a catalyst as well as an antithesis of SLO in the sense that when communities own shares in renewable energy companies that are operating within their vicinity, they are more inclined to accept and support them. At the same time, if those same companies are perceived as untrustworthy due to delayed dividend flows to communities, their SLO can very quickly be rescinded.

In an effort to manage the expectations of communities and to minimise tensions between the REI4P project companies and communities, Institution F3, in particular, underscored the importance of early and on-going engagement with communities on what community shareholding in REI4P project companies is; what it means for the socio-economic development of communities; when the dividend flows will actually commence; etc. IPPs also acknowledged the value of articulating early and repeatedly firm messages to the community on the issue of when dividend flows will actually materialise and commence at the launch of the SAPVIA SED/ED Sub-Committee, which was held on 4 March 2015. This confirms the contention reflected earlier in this thesis that constant and ongoing communication with and involvement of the communities in the socio-economic development plans and activities envisaged by MNCs or REI4P project companies, in this instance, will likely increase the SLO of those projects in the relevant locales in which their renewable energy plants are sited, whilst side-lining them will more likely threaten the very survival of their projects.

Another important cautionary message that emanates from the lessons learnt by financial institutions is that the percentage of community shareholding in REI4P project companies (i.e. between 2.5% to 5%) prescribed by the Implementation Agreement (IA) is insignificant and may not lead to the level of socio-economic development envisaged for the rural economy of the country. This message was also echoed by some respondent IPPs, as shown below. They also argue that the points allocated to this specific aspect in the evaluation of bids are so few that they fail to motivate IPPs to earmark large local community equity stake in the projects, in view of the fact that greater consideration is given to bid price in the evaluation process.

4.13. Lessons learnt by respondent IPPs

The lessons learnt by surveyed IPPs are similar to those identified by financial institutions in two ways. First, both emphasise how expensive and uncompetitive the cost of financing community equity ownership currently is; and second, both point to the need to engage with communities for greater success in the implementation of CEO and the REI4P projects, as a whole. The specific lessons learnt and cited by respondent IPPs include the following:

i. Lack of competitive fund for community equity ownership presents a challenge to promoters and the interest rates charged are not viable for community funding;
ii. Pricing offered to community trusts can be on the high end as funding institutions have hurdle rates to meet. This leads to real benefits filtering to the communities after many years of the plant's operation as the debt has to be paid off first;
iii. Allow sufficient time to discuss funding structures and options to local communities and do this repetitively for all parties (particularly communities) to gain a better understanding;
iv. Alternative innovative funding mechanisms are needed to ensure success of the project. Some IPPs, particularly, those of South African origin, do not have large balance sheets to leverage the provision of community equity ownership funding. Either alternative funding mechanisms are provided through Government intervention or remove community equity ownership entirely but provide for a mechanism where community trusts still receive some benefits.

Institution S2 underscored the fact that funding local community equity stake in a project is very expensive. As a result, many REI4P project companies are tempted to only offer the

obliged threshold of 2.5-5% equity stake in the projects because: (a) it is the minimum required to be compliant for bid submission; and (b) they can finance this equity stake via a free carry, which is cheaper for a small equity stake; and the points allocated to this item are very few (1.20 points out of 100) so that it is not worthwhile to allocate large local community equity stake in projects when higher points can be achieved in other areas such as price. The IPP cautioned that if Government is serious about promoting high local community equity stake in projects companies, it must allocate higher points in its bid evaluation system on this specific item.

4.14. Key Findings of the Study

Below is a summary indication of how the questions posed at the inception of the study have been addressed.

4.14.1. What are some of the perceived risks of funding community equity shareholding in the IPP Projects?

Although financial institutions, particularly commercial banks, are also willing to fund community equity ownership in REI4P project companies and have started doing so alongside the DFIs, they do so with a measure of unease on account of the perceived risks associated with it. In many instances, the financial institutions that have funded community equity ownership in REI4P project companies have done so with a 'slice of the senior debt' and require some collateral and/or guarantees to secure the loans advanced. As a result, there is need for Government to act as guarantor for communities in instances where the other shareholders are not in a position to provide the necessary security required by commercial banks.

The main risk associated with funding community equity ownership in the REI4P, according to the respondent financial institutions surveyed, relates to the fact that while the investment itself is minimal (2.5% to 5% shareholding in project companies), it requires huge amounts of resources, with no guarantees or security to back it up. This then leads to high cost of funding, with stringent terms and conditions.

4.14.2. What can be done to widen the pool of available funding sources?

Suggestions ranged from Government establishing an Energy Fund to support partial or full grants towards community equity ownership to authorising DFIs to offer debt instruments at

even lower lending rates than is currently the case, as well as permitting projects to issue bonds to enable communities to purchase a stake in the project company by using SED/ED contributions. Whilst the suggestions offered by respondents are of critical importance, it seems that policy intervention by Government is essential for 'giving comfort' to financiers that opening up their funding channels to community equity ownership in REI4P project companies is 'safe'. Wiser and Pickle (1998: 361) make the point in the following words:

> *"…policies that do not provide long term stability or that have negative secondary impacts on investment decisions will increase financing costs, sometimes dramatically reducing the effectiveness of the program…"*

Currently, there appears to be a policy 'vacuum' with regards to the financing question, particularly for those aspects of the REI4P that have a social enterprise or socio-economic development dimension and are not necessarily profit-generation and are thus 'unpalatable' for financiers and investors who are looking to reap huge profit margins from the launch and further expansion of the renewable energy industry in South Africa.

The point is while there is value in the recommendations made by survey respondents to this question, perhaps what is needed is to take a step back and reflect on what policy instruments are required to facilitate funding for both project development and the key socio-development elements of the REI4P in order to support the broadening and vibrancy of the renewable energy sector in a bid to address the energy crisis that the country faces.

4.14.3. What alternative financing sources and mechanisms can be identified to fund community equity shareholding and investment in renewable energy projects within the framework of the REI4P?

The study has identified several alternative funding options and mechanisms as presented in the discussion above, key amongst these are the following:

a) Increasingly, there is a need for Government to step in as guarantor for communities in those cases where the other shareholders are not in a position to provide the necessary security required by commercial banks;
b) Parallel to the above, there is need to mobilise greater and increased support of project sponsors and other shareholders to provide guarantees to commercial banks in order to secure loans for funding community equity ownership.

c) Closely linked to this, increased vendor support, either through direct funding, shareholder loans or free carry arrangements, was emphasised by many respondents as critical for facilitating community equity ownership in the REI4P. This resembles the 'Fintry Model' that was used in Scotland in 2007, where Falck Renewables advanced a loan to the Fintry Development Trust to purchase and own one of fifteen wind turbines in the 35MW Earlsburn Wind Farm in Stirlingshire (Haggett *et al.,* 2014);

d) Moreover, the Government should consider issuing a bond to assist local communities to raise the required capital in order for them to fund their shareholding in project companies;

e) Also, the Government should facilitate the creation of a conducive environment, through supportive policy instruments and standing in as guarantors for communities, in order for the financial sector, particularly commercial banks, to be more willing and at ease with advancing loans for funding community equity ownership in the proposed IPP Programmes and the REI4P, in particular;

f) Furthermore, the Government should mobilise and facilitate the involvement of multilateral and international DFIs, including climate change finance initiatives, to finance community equity ownership particularly for the Small IPP Programme, which seeks to capacitate and empower local renewable energy developers and entrepreneurs;

g) The Government should establish a grant programme or a low cost financing mechanism to facilitate the funding of community equity ownership in the IPP Programmes, and in the REI4P in particular, either on its own or in partnership with the donor community. This can be implemented as a partial grant and a partial loan scheme. A case in point is the funding scheme pursued in Scotland, wherein the Government provides an initial grant of a maximum of £20,000 to communities to undertake feasibility studies to verify whether the commercial renewable energy projects they wish to invest in are viable; together with a loan of £150,000, which covers 95% of the pre-planning costs borne by communities for investing in commercial renewable energy projects (The Scottish Government, 2014);

h) Life companies such as Old Mutual, Liberty, Metropolitan Life, etc. should also be approached for funding community equity ownership, bearing in mind that they too, may have onerous terms and conditions associated with their loans;

i) In addition, the use of communal land as equity into projects is an interesting possibility that requires further investigation to determine if it is, indeed, legally and administratively feasible;
j) The use of the Government Pension Fund to warehouse shares on behalf of communities also requires further investigation to determine exactly what it implies and entails and how it can be implemented within the parameters of the proposed IPP Programmes and the REI4P, in particular, as key pilot IPP Programme; and
k) Finally, the study proposes that Government should support DFIs to provide additional funding for community equity ownership on more preferential terms to disadvantaged communities.

In addition to these suggestions, Haggett *et al.* (2014a) make mention of community equity investment funding sources such as the Green Investment Bank of the UK and Social Investment Scotland; both of which are Government-supported financial institutions that can be considered and perhaps transposed to the South African context. Other methods to raise finance to support community equity ownership in the IPP Programmes and the REI4P, in particular, may include debentures and co-operative equity, which are both utilised to fund community equity ownership in renewable energy projects in Scotland (Haggett *et al.,* 2014a).

4.14.4. What of Social License to Operate (SLO) and the financing of community equity ownership?

The study has demonstrated that the local community ownership, SED and the ED requirements embody SLO in the REI4P, whilst they simultaneously constitute policy prerequisites in the bidding process of the Programme. In fact, SLO is essential for limiting the socio-political risk that projects are exposed to in communities. In time, this may be one of the main risks evaluated by financiers in undertaking due diligence before advancing loans for both project development and community shareholding in REI4P and other IPP project companies. In addition, the study also found that delays in the dividend flows to communities are likely to jeopardise the SLO of REI4P projects and may escalate tensions between communities and project companies.

4.15. Summary

The findings of the study indicate that there are currently insufficient funding sources to finance community equity ownership in the REI4P. This has been confirmed by the respondent IPPs in articulating the challenges they have experienced in relation to the community equity ownership aspect of the REI4P. Moreover, the limited funding sources that are in existence are likely to come under additional pressure as new IPP Programmes are implemented by Government in an endeavour to arrest the energy crisis facing the country. Thus, it is important to demarcate between the potential for funding local community shareholding in the renewable energy projects and actually accessing the funds; the two are not synonymous.

In addition, the study has identified several approaches that can be adopted in order to widen the pool of available funding sources and these have been mentioned in the discussion above. Interestingly, none of the respondents mentioned refinancing existing loans taken out to fund community equity ownership in REI4P, as an additional possible financing option, in view of the fact that several responses related to the high cost of financing and the onerous funding terms offered by some financial institutions, particularly the DFIs.

In addressing the research question, the study has demonstrated that key alternative financing sources and mechanisms to fund community shareholding in REI4P project companies include the establishment of a Government and/or donor supported grant programme; the intervention of Government as guarantor in the funding arrangements that relate to community equity ownership in REI4P project companies and increased vendor support to facilitate access to commercial bank loans; engaging DFIs to offer more competitive and preferential funding terms; greater involvement of commercial banks in community equity ownership; using the Government Pension Fund to warehouse shares on behalf of communities; and abolishing community trusts, which are negatively viewed by many IPPs as a result of their inefficiency to bring about significant developmental gains for communities and their susceptibility to corrupt and unscrupulous individuals bent on self-aggrandisement.

Quite a number of suggestions also pointed to the complete removal and elimination of the community equity ownership obligation in the REI4P. In considering this proposal, it may be important to demarcate between the community equity ownership obligation and community

trusts. The two are distinct in that whilst the former is prescribed by the Implementation Agreement, the latter is not. IPPs are not compelled to constitute community trusts as the only vehicle for managing and overseeing community equity ownership in REI4P project companies. They are free to explore and select other alternatives that suite their circumstances to best deliver the developmental gains that local community ownership seeks to foster. Therefore, there may be need to refrain from 'demonising' local community ownership on account of the systemic failures of community trusts and instead, consider other creative methods to fully and adequately satisfy the BBBEE requirements before abandoning local community ownership altogether.

Chapter 5: Conclusions and Recommendations

5.1. Conclusions

The purpose of this study was to identify alternative funding options to finance Community Equity Ownership (CEO) or community shareholding in the project companies that are participating in the Renewable Energy Independent Power Producer Procurement Programme (REI4P). This was motivated by the fact that new IPP Programmes will soon be launched via the Baseload IPP Programme, the Medium Term Risk Mitigation Project and the Small IPP Programme; and they, too, may each have a component of CEO. The need for finance to fund CEO in the REI4P, as well as in the other IPP Programmes, combined with the demand for finance for project development in the renewable energy sector itself, as well as in other infrastructural sectors that encompass the eighteen Strategic Integrated Projects (SIPs) of Government means that the financial sector may not be able to absorb the demand for funds. In light of all this, what alternative avenues can be pursued to attempt to meet the anticipated increase in demand for finances to fund the CEO in the remaining bidding rounds of the REI4P? This is the main research question that the study sought to answer. The study also demonstrated the instrumentality of SLO in forging positive Community-IPP relations for the successful implementation of the REI4P.

An exploratory research design was employed to conduct this study, where purposive sampling was used to identify and select two study groups. The first group consisted of handpicked financial institutions based in the Johannesburg-Pretoria corridor, whilst the second was made up of experienced IPPs who have participated in more than one Bidding Round of the REI4P and located in various parts of the country. A questionnaire survey was used to gather data in order to reach as many respondents as possible, whilst saving time and money that would otherwise be required in doing so via face-to-face interactions and data-gathering techniques. Moreover, the Thematic Content Analysis (TCA) approach was used to distil and analyse the open-ended responses and qualitative data that was collected during the study.

The study has demonstrated that because the Government of South Africa is a developmental State, it has, for a long time, prioritised redressing the inequalities of the apartheid era; improving the socio-economic status of rural communities; and ultimately, lifting them out of

poverty. Because communities in South Africa are fully awake to and are aware of this and in light of their ability to assert their rights – a skill which was cultivated whilst contending the injustices suffered during the apartheid era; they possess a very heightened sense of (in) justice and a conscious rights culture that far exceeds that which obtains in most other African societies.

Given this background, the study has attempted to 'sound the bell' that Social License to Operate (SLO) is of paramount importance for the successful implementation of the REI4P projects in rural communities. Indeed, there are some REI4P project companies that have learnt this the hard way, where altercations with communities have led to friction, blockades to project company premises and thus, undue delays in project completion and hindrances to the proper operations of renewable energy plants. What this study seeks to contribute to the body of knowledge is consideration to be given to making SLO one of the critical factors taken into account in assessing the socio-political risk of renewable and other related resource development projects (*viz.* fossil-fuel based energy resources, mining, water, sanitation, transport, telecommunications, etc.), when financiers undertake the necessary due diligence, to determine whether or not to fund, not only the community shareholding in such projects, but the entire project development of infrastructural programmes in South Africa, going forward.

The proposals made by respondents on how to widen the pool of financial resources that can be used to fund CEO include a mixed bag of new options and suggestions, as well as strengthening existing sources of finance to become more efficient and forthcoming in providing support for CEO in the REI4P as well as in the other emerging IPP Programmes.

Commercial banks are increasingly entering the fray of financing CEO. However, they require security and/or collateral that communities often do not possess. There is clearly a need for Government to play a leading role in providing guarantees for communities, against which the financial sector can have more confidence in lending for purposes of funding CEO. To this end, the Government, through the DoE, could consider establishing a Guarantee Scheme and a Grant Scheme to incentivise and support communities to access financing for CEO, through both 'soft' loans and grants, respectively.

The study also identified vendor support, via shareholder loans with 'preferential' terms and conditions, guarantees and the provision of security; as potentially instrumental in increasing

the available pool of resources to finance CEO. The issue of using the Government Pension Fund to warehouse shares in order to further unlock resources to finance CEO cannot be overlooked. However, it requires further research and to be expounded upon in future research. In the same vein, the use of communal land for equity deserves further exploration via more research, going forward. Establishing a donor and Government supported grant scheme and/or fund for the purpose of financing CEO proved to be a popular suggestion by survey respondents.

Community shareholding in REI4P project companies is one of the most ingenious ways of attempting to secure SLO, which would, at the end of the day, lead to community acceptance of; cooperation with and trust in the renewable energy projects in communities. Essentially, SLO is vital for the continuity and success of the REI4P projects in the various communities in which they are located throughout the country. However, the high cost of financing, which often results in significant delays in the dividend flows to communities, combined with weak and ineffective community equity governance structures or community business models utilised in the community trust approach, jeopardise and threaten the SLO that community shareholding in REI4P companies promises. This is where Government should turn its attention in order to arrest any negative outcomes of the REI4P and undermine the success, which the Programme has, so far, enjoyed.

On the whole, one of the greatest contributions of the REI4P is that it has assigned a 'premium' on the socio-economic development of communities and the whole culture of Corporate Social Responsibility (CSR) and Corporate Social Investment (CSI) in South Africa. The private sector can no longer afford to gloss over, ignore or 'toss a few coins' in the direction of poor communities. The REI4P has demonstrated that caring about and giving back to communities can be legislated and that socio-economic development can be assigned a particular price and value. The penalty system that is in-built in the Programme ensures that socio-economic development and enterprise development benefits, as well as dividends arising from local community ownership, flow to poor communities for the duration of the renewable energy projects. If this works, it could usher in a new era of CSR and CSI where business actually does consider communities. Indeed, such an approach should be replicated in other resource development infrastructural programmes of Government.

In light of the findings of the study, it is, therefore, concluded that there is potential for identifying alternative funding options for community equity ownership in the REI4P.

5.2. Recommendations

Recommendation 1: While this study was founded on a social license to operate theory, it would be interesting to conduct a comparative study to analyse the impact that other sustainable development theories, such as local legitimacy theory, would likely have on CSR, for instance. How would this compare to the mutually dependent roles that CEO and SLO have on each other and on socio-political risk in communities, as a whole? Indeed, this type of comparative research should be considered to further this study.

Recommendation 2: While the questionnaire survey for this study included financial institutions and REI4P IPPs, it omitted communities and Government due to time and resource constraints. Further research should be considered to expand the study to include a community survey, where the views of REI4P beneficiary communities are also incorporated, as well as those of Government, in tandem with those of financial institutions and IPPs.

Recommendation 3: DFIs need to go back to the drawing board and re-examine the lending terms and conditions through which they offer loans for the purposes of funding CEO, with a view to making them 'softer', more preferential and less market-oriented. It should not be the case that the terms and conditions offered by DFIs are considered more onerous than those obtaining in private financial institutions, including commercial banks, particularly in light of the role that they are expected to play in the developmental space of the country. They should, therefore, be playing a critical role in promoting the socio-economic development of disadvantaged communities rather than manipulating their weak position. Thus, more 'softer' terms and conditions; as well as more concessions for refinancing existing loans made for CEO in the REI4P, should be considered for loans initially made by DFIs.

Recommendation 4: There may be need for IPPs and other stakeholders to refrain from 'demonizing' community equity ownership or local community ownership on account of and as a result of the systemic failures of community trusts. Community equity ownership and community trusts are not synonymous and while the former is prescribed in the REI4P, the latter are not. Community trusts are 'a community business model of choice' for many developers in the renewable energy and mining sectors of South Africa. Why this continues

to be the case despite the 'headaches' that community trusts present remains a mystery. Perhaps the time has come for IPPs to 'wean' themselves off community trusts and consider an entirely new community business model that fits the context and circumstances of the relevant community and IPP. Several community business models that are utilised in developed countries have been discussed in this thesis including energy co-operatives, CICs, closed-end funds, Community Foundations, etc. IPPs and communities may need to jointly consider these and adapt them to their context and then propose their own unique structures through which community dividend flows and associated community development projects can be disseminated and managed. The matter of the challenges associated with community trusts in both the renewable energy and mining sectors could also be the subject of further research.

Recommendation 5: The Government has 'its work cut out for it' should it seek to empower rural communities in South Africa, to possess and come to the same level of self-motivation as rural communities in developed nations. The day must come when rural communities in South Africa can demonstrate that they are 'self-starters' by initiating and proposing renewable energy projects that they can either wholly own or approach utilities, project developers, commercial banks and other financiers both in South Africa and abroad, to partner with them in establishing renewable energy projects and programmes. It will require a committed and sustained effort on the part of Government to assist them to reach that goal.

Recommendation 6: There may be need to reconsider the REFIT programme for South Africa and to restructure it in such a way that it does not have negative legal connotations, in order to stimulate self-motivated community equity ownership in renewable energy schemes in the country. This would be particularly useful after the REI4P has lapsed and run its full course and term. The international examples examined in this study clearly demonstrate that REFIT played a crucial role in motivating and mobilising communities to initiate renewable energy projects on their own, without waiting for Government to take the lead in this area.

Recommendation 7: There is need for Government to establish new policies to stimulate and motivate the financial sector to increase support for the funding of community shareholding in the remaining rounds of the REI4P and in the new IPP Programmes.

Recommendation 8: Government must establish clear, distinct support programmes to promote, encourage and stimulate the funding of CEO both within the context of the REI4P and other IPP Programmes.

Recommendation 9: It would be critical for Government to create a policy environment that will encourage private financial institutions to fund CEO and motivate communities to play a leading role in investing in renewable energy projects that would not only generate revenue to support their own development, but improve access to modern energy carriers as a way of stimulating socio-economic development. This may take time to accomplish; nevertheless, right now may very well be the best time to start the process.

References

Ackroyd, S. and Hughes, J. A. (1981). *Data collection in context.* [Online]. Available at: http://libweb.surrey.ac.uk/library/skills/ [Last Accessed 7 February 2015].

Allan, G. (2003). A critique of using grounded theory as a research method. *Electronic Journal of Business Research Methods*, 2 (1), pp. 1-10.

Anastas, J. W. (1999). *Research design for social work and the human services*. New York: Columbia University Press.

Anderson, R. (2007). *Thematic Content Analysis (TCA): Descriptive presentation of qualitative data.* [Online]. Available at: http://www.wellknowingconsulting.org/publications/pdfs/ThematicContentAnalysis.pdf [Last Accessed 29 January 2015].

Atkinson, P. and Hammersley, M. (1994). Ethnography and participant observation. In: Norman K. Denzin and Yvonna S. Lincoln, eds. *Handbook of Qualitative Research.* Thousand Oaks, CA: Sage, pp. 248-261.

Baker, L. and Wlokas, H. L. (2014). *South Africa's Renewable Energy Procurement: A New Frontier.* Working Paper 159. Tyndall Centre for Climate Change Research.

Bardien, R. (2015). Microsoft and South Africa focus on Sustainable Community Development: Partners in Learning. [Online]. Retrieved from: http://www.unesco.org/iiep/PDF/pubs/SouthAfrica.pdf (25.05.2015)

Bartlett, C. A., Ghoshal, S. and Beamish, P. W. (2007). *Transnational Management: Text, Cases, and Readings in Cross-Border Management.* 5th ed. New York: McGraw-Hill.

Bhattacherjee, A. (2012). *Social Science Research: Principles, Methods, and Practices.* University of South Florida: USF Tampa Library Open Access Collections.

Bobinaite, V. and Tarvydas, D. (2014). Financing instruments and channels for the increasing production and consumption of renewable energy: Lithuanian case. *Renewable and Sustainable Energy Reviews,* 38, pp. 259–276.

Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3 (2), p. 93.

Burgess, R. G. (Ed). (1982). *Field Research: A Source Book and Field Manual.* London: Allen and Unwin.

Business Dictionary (2015). *Equity.* [Online]. Retrieved from: http://www.businessdictionary.com/ (23.01.2015).

BWE (2012). *Community Wind Power: Local Energy for Local People.* [Online]. Available at: https://www.wind-energie.de/sites/default/files/download/publication/community-wind-power/bwe_broschuere_buergerwindparks_engl_10-2012.pdf [Last Accessed 19 March 2015].

Cassell, C. and Symon, G. (Eds.). (2004). *Essential Guide to Qualitative Methods in Organizational Research.* London: Sage.

CDE Round Table. (2008). *South Africa's Electricity Crisis: How did we get here? And how do we put things right?* [Online]. Available at: http://www.cde.org.za/article.php?a_id=312 [Last Accessed 7 February 2015].

Childers, L. (2007). *Guidelines for writing a thesis or dissertation.* [Online]. Retrieved from: https://www.jou.ufl.edu/grad/forms/Guidelines-for-writing-thesis-or-dissertation.pdf (07.02.2015).

Cooper, H., Hedges, L. V. and Valentine, J. C. (Eds.). (2009). *The Handbook of Research Synthesis and Meta-Analysis*. 2nd edition. New York: Russell Sage Foundation.

Corporate Research and Consultation Team (CRCT) (2015). *Research and Consultation Guidelines.* [Online]. Retrieved from: https://www.kirklees.gov.uk/community/yoursay/Questionnaires.pdf (07.02.2015).

Cuthill, M. (2002). Exploratory Research: Citizen Participation, Local Government and Sustainable Development in Australia. *Sustainable Development,* 10, pp. 79-89.

De Vaus, D. A. (2001). *Research Design in Social Research*. London: SAGE.

Deloitte (2012). *Partnering for future prosperity - Delivering successful infrastructure projects to create globally competitive South African cities.* [Online]. Available at: https://www.deloitte.com/assets/Dcom-SouthAfrica/Local Assets/Documents/Partnering_for_future_prosperity_.pdf [Last Accessed 15 November 2014].

Department of Energy (DoE) (2011). *Schedule 4 – Renewable Energy Economic Development Policy: New Generations Capacity under the IPP Procurement Programme, Draft 1-15 March 2011.* Pretoria: Department of Energy.

Department of Energy (DoE) (2014a). *Request for Qualification and Proposals for New Generation Capacity under the REIPP Procurement Programme – Part A: General Requirements, Rules and Provisions.* Pretoria: Department of Energy.

Department of Energy (DoE) (2014b). *Minutes of the Meeting between the IPP Office ED Department and the DFIs to discuss Community Trust Issues. 16 July 2014.* Pretoria: Department of Energy.

Department of Energy (DoE) (2014c). *Bid Window 3 Preferred Bidder Announcement of 4 November 2013.* Pretoria: Department of Energy.

Department of Energy (DoE) (2014d). *Request for Qualification and Proposals for New Generation Capacity under the REIPP Procurement Programme - Volume 5: Economic Development Requirements.* Pretoria: Department of Energy.

Department of Energy (DoE) (2014e). *Request for Qualification and Proposals for New Generation Capacity under the REIPP Procurement Programme – Volume 3: Technical Requirements.* Pretoria: Department of Energy.

Department of Environmental Affairs (DEA) (2011). *National Climate Change Response White Paper (NCCRWP).* [Online]. Available at: http://www.info.gov.za/view/DownloadFileAction?id=152834 [Last Accessed 15 November 2014].

Department of Rural Development and Land Reform (DRDLR) (2015). *Grants and Services of the Land Reform Programme (Version 7).* [Online]. Available at: http://www.ruraldevelopment.gov.za/phocadownload/Policies/grants and services-approved version7.pdf [Last Accessed 22 February 2015].

Department of Trade and Industry (DTI) (2003). *Broad Based Black Economic Empowerment Act No. 53 of 2003.* [Online]. Available at https://www.thedti.gov.za/economic_empowerment/BEEAct-2003-2004.pdf [Last Accessed 13 March 2015].

Eberhard, A. (2013). *Feed-in tariffs or auctions? Procuring renewable energy supply in South Africa.* Viewpoint – public policy for the private sector, Note number 338. Washington D.C.: The World Bank Group.

Eberhard, A., Kolker, J. and Leigland, J. (2014). *South Africa's Renewable Energy IPP Procurement Program: Success Factors and Lessons.* Washington D.C.: World Bank Group Public-Private Infrastructure Advisory Facility (PPIAF).

Energy Blog (2014). *South Africa's Renewable Energy Programme Announces Successful Bidders for Round Three.* [Online]. Available at: http://www.energy.org.za/news/18-the-energy-blog/89-reippp-window-three [Last Accessed 2 September 2014].

Enzensberger, N., Fichtner, W. and Rentz, O. (2003). Financing renewable energy projects via closed end funds: A German case study. *Renewable Energy,* 28, pp. 2023-2036.

ETU (2015). *Land Reform.* [Online]. Available at: http://www.etu.org.za/toolbox/docs/government/land.html [Last Accessed 22 February 2015].

European Commission Press Release Database (ECPRD) (2011). *Press Release: EIB supports flagship South African Renewables Initiative. Durban, 7 December 2011.* [Online]. Available at: http://europa.eu/rapid/press-release_BEI-11-191_en.htm [Last Accessed 22 February 2015].

Farrell, L. A., Hamann, R. and Mackres, E. (2012). A clash of cultures (and lawyers): Anglo Platinum and mine-affected communities in Limpopo Province, South Africa. *Resources Policy*, 37, pp. 194–204.

Franks, D. M., Davis, R., Bebbington, A. J., Ali, S. H., Kemp, D. and Scurrah, M. (2014). *Conflict translates environmental and social risk into business costs.* [Online]. Available at: http://dx.doi.org/10.1073/pnas.1405135111 [Last Accessed 20 November 2014].

Gall, M., Gall, J. and Borg, W. (2007). *Educational Research: An Introduction*. 8th Edition. Boston, MA: Pearson, Allyn and Bacon.

Germanos, A. (2014). Colombian Farmers Take BP to Court in Landmark Case. *Common Dreams.* [Online]. 15 October 2014. Retrieved from: http://www.commondreams.org/news/2014/10/15/colombian-farmers-take-bp-court-landmark-case (16.10.2014).

Gifford, B. and Kestler, A. (2008). Toward a Theory of Local Legitimacy by MNEs in Developing Nations: Newmont Mining and Health Sustainable Development in Peru. *Journal of International Management,* 14, pp. 340-352.

Global Wind Energy Council (GWEC) (2012). *Global Wind Report – Annual Market Update 2012.* [Online]. Retrieved from: http://www.gwec.net/wp-content/uploads/2012/06/Annual_report_2012_LowRes.pdf (01.09.2014).

Goddard, W. and Melville, S. (2004). *Research Methodology: An Introduction.* Juta and Company Ltd.

Greener, S. (2008). *Business Research Methods*. London: Ventus.

Gujba, H., Thorne, S., Mulugetta, Y., Rai, K. and Sokona, Y. (2012). Financing low carbon energy access in Africa. *Energy Policy,* 47, pp. 71–78.

Guzzo, R. A., Jackson, S. E. and Katzell, R. A. (1987). Meta-Analysis Analysis. In *Research in Organizational Behavior*, Volume 9. Greenwich, CT: JAI Press, pp 407-442.

Haggett, C., Aitken, M., Rudolph, D., van Veelen, B., Harnmeijer, J. and Markantoni, M. (2014a). *Supporting Community Investment in Commercial Renewable Energy Schemes: Final Report.* United Kingdom: Climatexchange.

Haggett, C., Aitken, M., Rudolph, D., van Veelen, B., Harnmeijer, J. and Markantoni, M. (2014b). *Supporting Community Investment in Commercial Renewable Energy Schemes: Summary Report.* United Kingdom: Climatexchange.

Haggett, C., Creamer, E., Harnmeijer, J., Parsons, M. and Bomberg, E. (2013). *Community Energy in Scotland: The Social Factors for Success.* United Kingdom: Climatexchange.

Hall, N., Lacey, J., Carr-Cornish, S. and Dowd, A. (2014). Social license to operate: Understanding how the concept has been translated into practice in energy industries. *Journal of Cleaner Production,* 86, pp. 301-310.

Harvey, B. (2014). Social development will not deliver social licence to operate for the extractive sector. *The Extractive Industries and Society,* 1, pp. 7–11.

International Renewable Energy Agency (IRENA) (2012). *Financial mechanisms and investment frameworks for renewables in developing countries.* Abu Dhabi: IRENA.

Kaeb, C. (2008). Emerging Issues of Human Rights Responsibility in the Extractive and Manufacturing Industries: Patterns and Liability Risks. *Northwestern Journal of International Human Rights*, 6 (2), pp. 327-353.

Kalaian, S. A. and Kasim, R. M. (2008). Longitudinal Studies. In Paul J. Lavrakas (Ed.), *Encyclopedia of Survey Research Methods*. Thousand Oaks, CA: Sage. pp. 440-441.

Kawulich, B. B. (2004). Data Analysis Techniques in Qualitative Research. In Darla Twale (Ed.), *Journal of Research in Education,* 14 (1), pp. 96-113.

Kelley, K., Clark, B., Brown, V. and Sitzia, J. (2003). Methodology Matters: Good Practice in the Conduct and Reporting of Survey Research. *International Journal for Quality in Health Care,* 15 (3), pp. 261-266.

Key, J. P. (1997). *IRB Thesis Handbook.* Oklahoma State University. [Online]. Retrieved from: http://www.okstate.edu/ag/agedcm4h/academic/aged5980a/5980/newpage16.htm (07.02.2015).

Kinzer, H. and Gillies, J. L. (20140. *Cross-Cultural Analysis.* University of Alabama. [Online]. Retrieved from: http://anthropology.ua.edu/cultures/cultures.php?culture=Cross-Cultural Analysis (15.01.2015).

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques.* Second Edition. New Age International Publishers (Pty) Ltd.

KPMG (2013). *Taxes and incentives for renewable energy.* [Online]. Available at: http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/taxes-and-incentives-for-renewable-energy/Documents/taxes-and-incentives-for-renewable-energy-2013.pdf [Last Accessed 22 February 2015].

Krippendorff, K. H. (2012). *Content Analysis: An Introduction to Its Methodology.* 3rd Edition. Thousand Oaks: SAGE Publications.

Krupa, J. and Burch, S. (2011). A new energy future for South Africa: The political ecology of South African renewable energy. *Energy Policy,* 39, pp. 6254-6261.

LeCompte, M. D. and Schensul, J. J. (1999). *Analyzing and interpreting ethnographic data.* Walnut Creek, CA: AltaMira Press.

Lipp, J. (2007). Lessons for effective renewable electricity from Denmark, Germany and the United Kingdom. *Energy Policy,* 35, pp. 5481-5495.

Lipsey, M. W. and Wilson, D. B. (2001). *Practical Meta-Analysis*. Thousand Oaks, CA: Sage Publications.

Martin, P. Y. and Turner, B. A. (1986). Grounded Theory and Organizational Research. *Journal of Applied Behavioral Science,* 22 (2), pp. 141-157.

Mayers, J. and Vermeulen, S. (2002). *Company-community forestry partnerships: From raw deals to mutual benefits.* International Institute for Environment and Development (IIED): London.

Mendonca, M., Lacey, S. and Hvelplund, F. (2009). Stability, participation and transparency in renewable energy policy: Lessons from Denmark and the United States. *Policy and Society,* 27, pp. 379-398.

Mitchell, P., Santi, E. and Lichtenberg, Z. (2005). *The Role of Socio-Political Risk Analysis in Developing Communications Strategies for Controversial Projects: The Case of the West Africa Gas Pipeline Project.* Paper Presented at the CommNet Forum, World Bank, Washington, May 9-11, 2005.

Moffat, K. and Zhang, A. (2014). The paths to social licence to operate: An integrative model explaining community acceptance of mining. *Resources Policy,* 39, pp. 61–70.

Muchlinski, P. T. (2001). Human Rights and Multinationals: Is There a Problem? *International Affairs,* 77 (1), pp. 31-47.

National Treasury (NT) (2010). *Reducing Greenhouse Gas Emissions: The Carbon Tax Option - Discussion Paper for Public Comment.* [Online]. Retrieved from: http://www.treasury.gov.za/public comments/Discussion Paper Carbon Taxes 2081210.pdf (10.09.2014).

National Treasury (NT) (2013). *Carbon Tax Policy Paper: Reducing Greenhouse Gas Emissions and Facilitating the Transition to a Green Economy - Policy Paper for Public Comment.* [Online]. Retrieved from: https://vula.uct.ac.za/access/content/group/ef58ae3f-8033-42c9-92e3-a82d073d3590/Additional%20Readings/Carbon_Tax_Policy_Paper_May2013.pdf (10.09.2014).

NERSA (2011). *Generation Licence applications for Avon Peaking Power (Pty) Ltd and Dedisa Peaking Power (Pty) Ltd in respect of the Department of Energy's IPP Peaking Power Generation Project: NERSA's Public Hearing in Pretoria on 13 July 2011.* [Online]. Available at: http://www.nersa.org.za/Admin/Document/Editor/file/Consultations/Electricity/Presentations/GDF%20SUEZ%20Energy%20Southern%20Africa%20Co_%20Ltd.pdf [Last Accessed on 24 March 2015].

Niehuss, J. M. (2010). *International project finance in a nutshell.* Michigan: Thomas Reuters.

Nolden, C. (2013). Governing community energy: Feed-in tariffs and the development of community wind energy schemes in the United Kingdom and Germany. *Energy Policy,* 63, pp. 543-552.

Olesen, G.B., Maegaard, P. and Kruse, J. (2002). *Danish experience in wind energy: Local financing.* Working report of the WELFI project. Comité de Liaison Energies Renouvelables.

Oteman, M., Wiering, M. and Helderman, J-K. (2014). The institutional space of community initiatives for renewable energy: A comparative case study of the Netherlands, Germany and Denmark. *Energy, Sustainability and Society,* 4, p. 11.

Owen, J. R. and Kemp, D. (2013). Social licence and mining: A critical perspective. *Resources Policy,* 38, pp. 29–35.

Park, J. J. (2012). Fostering community energy and equal opportunities between communities. *Local Environment,* 17 (4), pp. 387-408.

Pilkington, E. (2009). Shell pays out $15.5m over Saro-Wiwa Killing. *The Guardian Online.* [Online]. 9 June 2009. Retrieved from: http://www.theguardian.com/world/2009/jun/08/nigeria-usa (16.10.2014).

Ployhart, R. E. and Vandenberg, R. J. (2010). Longitudinal Research: The Theory, Design, and Analysis of Change. *Journal of Management,* 36, pp. 94-120.

Presidential Infrastructure Coordinating Commission (PICC) (2013). *A Summary of the South African National Infrastructure Plan.* [Online]. Available at: http://www.gov.za/sites/www.gov.za/files/PICC_Final.pdf [Last Accessed 25 March 2015].

Prno, J. (2013). An analysis of factors leading to the establishment of a social licence to operate in the mining industry. *Resources Policy,* 38, pp. 577–590.

Prno, J. and Slocombe, D. S. (2012). Exploring the origins of 'social license to operate' in the mining sector: Perspectives from governance and sustainability theories. *Resources Policy*, 37, pp. 346–357.

Quinn, P. M. (2002). *Qualitative Research and Evaluation Methods*. Chapter 6. In Fieldwork Strategies and Observational Methods. 3rd ed. Thousand Oaks, CA: Sage.

Ritchie, J. and Lewis, J. (Eds) (2003). *Qualitative Research Practice: A Guide for Social Science Students and Researchers.* London: Sage.

Roberts, J., Bodman, F. and Rybski, R. (2014). *Community Power: Model Legal Frameworks for Citizen-Owned Renewable Energy.* ClientEarth: London.

Rondinelli, D. A. and Berry, M. A. (2000). Environmental Citizenship in Multinational Corporations: Social Responsibility and Sustainable Development. *European Management Journal,* 18 (1), pp. 70–84.

Rosenbaum, P. R. (2010). *Design of Observational Studies.* New York: Springer.

Ryan, B., Scapens, R. W. and Theobold, M. (2002). *Research Method and Methodology in Finance and Accounting.* London: Academic Press Limited.

Saba, T. (2010). *Making Viable Wind Farms into Bankable Projects - Role of Independent Engineer.* Presentation at the 2010 Wind Energy Conference, New Zealand. [Online]. Available at: http://windenergy.org.nz/documents/conference10/tsaba.pdf [Last Accessed 11 November 2014].

Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Students.* Harlow: Pearson.

Savitt, R. (1980). Historical Research in Marketing. *Journal of Marketing*, 44, pp. 52-58.

Schreier, M. (2012). *Qualitative Content Analysis in Practice*. London: SAGE Publications.

Seyfang, G., Park, J. J. and Smith, A. (2013). A thousand flowers blooming? An examination of community energy in the UK. *Energy Policy,* 61, pp. 977-989.

Shah, S. (1994). The Researcher/Interviewer in Intercultural Context: A Social Intruder! *British Educational Research Journal*, 30 (4), pp. 549-575.

Shared Ownership Taskforce. (2014). Report to DECC. Draft Report Consultation. 23rd June 2014. London, UK.

Taylor, P. J., Catalano, G. and Walker, D. R. F. (2002). Exploratory Analysis of the World City Network. *Urban Studies,* 39, pp. 2377-2394.

The Scottish Government. (2014). *The Community and Renewable Energy Scheme (CARES): Overview of Support.* Edinburgh: The Scottish Government.

Thomas, G. and James, D. (2006). Re-inventing grounded theory: Some questions about theory, ground and discovery. *British Educational Research Journal,* 32 (6): pp. 767–795.

Thomson, I. and Boutilier, R.G. (2011). *Modelling and measuring the social license to operate: Fruits of a dialogue between theory and practice.* [Online]. Available at: http://socialicense.com/publications/Modelling and Measuring the SLO.pdf [Last Accessed 10 February 2015].

University of Leicester (UOL) (2015). *Module 9: Introduction to Research.* Available at: http://libweb.surrey.ac.uk/library/skills/Introduction to Research and Managing Information/Leicester/index.htm [Last Accessed 7 February 2015].

Valkeapää, A. and Karppinen, H. (2013). Citizens' view of legitimacy in the context of Finnish forest policy. *Forest Policy and Economics,* 28, pp. 52–59.

van Wyk, B. (2012). *Research Design and Methods: Part I.* Cape Town: University of the Western Cape.

Walker, E., Hernandez, A. V. and Kattan, M. W. (2008). Meta-Analysis: It's Strengths and Limitations. *Cleveland Clinic Journal of Medicine,* 75, pp. 431-439.

Walker, G., Devine-Wright, P., Hunter, S., High, H. and Evans, B. (2010). Trust and community: Exploring the meanings, contexts and dynamics of community renewable energy. *Energy Policy,* 38 (9), pp. 2655-2663.

Wiser, R. H. and Pickle, S. J. (1998). Financing investments in renewable energy: The impacts of policy design. *Renewable and Sustainable Energy Reviews,* 2, pp. 361-386.

Wiser, R., Pickle, S. and Goldman, C. (1997). Renewable Energy and Restructuring: Policy Solutions for the Financing Dilemma. *The Electricity Journal,* 10 (10), pp. 65-75.

Yildiz, Ö. (2014). Financing renewable energy infrastructures via financial citizen participation: The case of Germany. *Renewable Energy,* 68, pp. 677-685.

Appendix 1: Survey Questionnaires for the Study

Questionnaire A for Financial Institutions

Evaluation of Alternative Financing Sources and Mechanisms for Community Equity Ownership within the context of the South African Renewable Energy Independent Power Producer Procurement Programme (REI4P): Research Questionnaire A for Financial Institutions

Introduction

The point of departure for this study is that the current funding offered by Development Finance Institutions (DFIs) to finance community equity ownership in the REI4P will likely be insufficient in the near future, in light of the other emerging IPP Programmes. In view of this, the study aims to identify possible alternative financing sources and mechanisms for sponsoring community equity investment in the IPP Projects, in addition to existing current sources.

Name of Institution: ……..…….

Name of Respondent (Optional): ……

Contact Telephone Number (Optional): ……..…….

E-mail Address (Optional): ……

Please use separate sheet to answer questions should the spaces provided below be insufficient.

1. Has your organisation/institution funded community equity ownership in the Renewable Energy Independent Power Producer Procurement Programme (REI4P)?
   Yes
   No

2. If yes, what motivated you to support this component of the REI4P?

---

3. Have you participated in funding community equity ownership within the scope of the REI4P?
Yes
No

---

4. If yes, what funding sources and mechanisms have you traditionally relied upon to fund community equity ownership in the REI4P?

---

5. If not, why has your organisation/institution not funded or considered funding community equity ownership within the context of the REI4P?

_____
_____
_____

6. What are some of the perceived risks of funding community equity shareholding in the IPP Projects?

_____
_____
_____
_____

7. What other untapped funding sources and mechanisms are available in South Africa to finance community equity ownership within the framework of the REI4P?

_____
_____
_____
_____

8. In your view, what would be the ideal funding mechanism/source to finance community equity ownership in the REI4P? What features/qualities must it possess so that it can be used as a yardstick to assess other existing options?

_____
_____
_____

9. What else needs to be done to widen the pool of funding sources?

---

10. What lessons can you share from your experience with funding community equity ownership within the REI4P?

---

11. Any other relevant comments:

_____
_____
_____
_____

Disclaimer: *This questionnaire may change depending on the outcomes of the research in the different phases of the study*.

Questionnaire B for Independent Power Producers (IPPs)

Evaluation of Alternative Financing Sources and Mechanisms for Community Equity Ownership within the context of the South African Renewable Energy Independent Power Producer Procurement Programme (REI4P): Research Questionnaire B for Independent Power Producers

Introduction

The point of departure for this study is that the current funding offered by Development Finance Institutions (DFIs) to finance community equity ownership in the REI4P will likely be insufficient in the near future, in light of the other emerging IPP Programmes. In view of this, the study aims to identify possible alternative financing sources and mechanisms for sponsoring community equity investment in the IPP Projects, in addition to existing current sources.

Name of Institution: ……..…….

Name of Respondent (Optional): ……

Contact Telephone Number (Optional): ……..…….

E-mail Address (Optional): ……

Please use separate sheet to answer questions should the spaces provided below be insufficient.

1. What challenges have you experienced in accessing funding for the community equity ownership that is required in the REI4P for your project(s)?

2. How have you overcome these challenges?

3. What constraints are you experiencing with your current funding arrangements with regard to community equity ownership?

4. In your view, what should the Department of Energy/Government do to facilitate ease of access to funds to support community equity ownership?

5. What alternative funding sources would you propose over and above the existing funding that is offered by Development Finance Institutions such as DBSA, PIC and IDC?

_____
_____
_____

6. What else can be done by Government and other actors to facilitate an increased variety of funding options to support community equity ownership in both the REI4P and other emerging IPP Programmes?

_____
_____
_____
_____

7. What lessons have you learnt in connection with accessing funding for this key aspect of the REI4P?

_____
_____
_____

8. Any other relevant comments:

_____
_____
_____

Disclaimer: *This questionnaire may change depending on the outcomes of the research in the different phases of the study*.